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Retaining Highly Qualified Teachers Through Leadership Support in Secondary Mathematics

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RETAINING HIGHLY QUALIFIED TEACHERS THROUGH LEADERSHIP SUPPORT IN SECONDARY MATHEMATICS

by

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ABSTRACT

The No Child Left Behind Act was enacted to improve low performing schools. One of the proposed answers to the problem was that all schools would have "highly qualified" teachers, especially in the subjects of mathematics and science. This study was aimed at helping school administrators retain their highly qualified mathematics teachers in their urban schools. The topic for this study was seeking to understand the factors related to school administrators retaining highly qualified mathematics teachers at the secondary level. Therefore, my study examined the lens of leadership factors that related to the retention of secondary mathematics teachers. The study took place in Hampton Roads Virginia. Administrator interviews helped me to get a small snap shot of their actual experiences in how those experiences pertained to teacher retention. An in-depth conversation with the participants included; (a) current practicing principal's/assistant principal's insights and experiences pertaining to culture and climate of their schools, their philosophy and approach for supporting all new teachers and new mathematics teachers; (b) major obstacles that these new teachers face during their first years; (c) characteristics of highly qualified teachers, retention of mathematics teachers and its effect on a school or department; (d) and factors that influence mathematics teachers to stay or leave the teaching profession.

DEDICATION

I dedicate my dissertation work to the living God in and around me. Thank you God for giving me the gift for education. I also dedicate my dissertation work to the memory of my grandmother, Mary A. Powell. Thank you for being there for me in spirit and for being my greatest teacher in life. I dedicate my dissertation work to the memory of my cousin Anthony Cherry. Thank you for being there for me in sprit and for teaching me how a man should walk and love others unconditionally. I furthermore dedicate my dissertation work and everything I am and will become to my wife Alicia M. Powell. With you, my love, my education career journey was birthed. You have been my greatest support system and I learn so much from watching your greatness. Thank you for your patience while I went through this process. I finally dedicate my dissertation work to my family, friends, students, and coworkers. You have all made my life rich and interesting. With a special thanks to Mr. Mike Nichols, Mrs. Maricia Granby-Jordan, and Mrs. Sonia Bennett for being my mentors throughout my career as a teacher. Also, with a special thanks to my Heritage Hurricanes, Huntington Vikings, Crittenden Cougars, Woodside Wolverines, and Salem Sundevils family. Thank you all for being a part of my journey.

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CHAPTER 1

Overview

One objective of The No Child Left Behind (NCLB) Act was to improve low performing schools. One of the proposed solutions to the dilemma was that all schools would have "highly qualified" teachers, especially in the subjects of math and science (Darling-Hammond, 2003). Highly qualified teachers are defined as teachers who have a collegiate background in the subjects they are teaching (Darling-Hammond & Berry, 2006). These teachers have either at the minimum a bachelors degree or advanced degrees in their teaching content. However, it can be difficult retaining these teachers in urban area schools. Although teachers are leaving the field for many different reasons, pay and lack of administrative support seem to be at the top of the list of reasons (Curtis & Wise, 2012).

Teachers in low performing schools often teach in an environment that contains a diverse range of difficulties. According to Thompson and Smith (2004), "teachers are faced with educating students who have diverse needs and come from diverse, complex backgrounds" (p. 73). Schools are charged with ensuring the success of all students. However, some inner city schools are failing to retain highly qualified teachers, which may be impeding the success of all students.

Recruiting and retaining highly qualified teachers should be a top priority for school administrators. School administrators need to implement programs and have incentives to keep highly qualified teachers at hard to staff schools (Darling-Hammond, 2003). Schools are student centered and needs of the school personnel may be overlooked. Malloy and Allen (2007) express, "findings from this study suggest that the nurturing the nurturers concept, inherent in teacher resiliency-building schools, enhances teacher retention strategies" (p. 19). School

administrators must remember to nurture the teacher so that they not only perform in the classroom, but want to come back to teach year after year.

Virginia ties the Standards of Learning (SOL) tests to middle and high school accreditation. Many schools in our area and in other parts of the state have lost their accreditations due to the new testing standards. Chandler (2013) states, "At least 36 public schools in Northern Virginia fell short of full state accreditation this year, up 14 from last year, a consequence of tougher academic standards and state tests that have been introduced in recent years (para. 1)". This number had climbed in just one year and it is possible that the number of schools that lose accreditation will continue to rise. Having, recruiting, and retaining highly qualified mathematics teachers is going to be Virginia's top weapon in getting these schools re-accredited, and keeping them there.

Significance of the Study

One of the most important missions for schools is to provide learning environments that are conducive to student achievement. In order for schools to be successful in this endeavor, educational leaders will have to provide their highly qualified teachers with support. However, there is a challenge in retaining these teachers in urban area schools. According to Berry (2004) "in some ways, keeping teachers is a far larger problem than preparing new ones and may be the fundamental solution to the teacher shortage problem" (p. 6). Liu, Xitao, and Tai (2007) conducted a study and found that teachers who held advanced mathematics degrees are more likely to leave their original schools than teachers who do not hold these degrees. Brown and Wynn (2008) state, "Most teacher turnover is costly, and it has negative effects at the school level-whether it is through attrition (i.e., leaving the occupation voluntarily or involuntarily) or migration (i.e., intra- and interdistrict movement from school to school)" (p. 666). Curtis and

Wise (2012) found the following two common themes among teachers who are leaving urban schools for many different reasons; pay and lack of administrative support.

Brown and Wynn (2009) assert that math positions remain hard to fill in schools that service high-poverty areas and that there is high turnover in these schools. Ingersoll (2011) further states, "Numerous high-profile reports have directly tied mathematics and science teacher shortages to a host of education and social problems, including the inability to meet student achievement goals, low U.S. performance compared to other nations, the minority achievement gap, poor national economic competitiveness, and even threats to national security" (p. 37). School leaders may be able to provide support by fostering teacher self-efficacy within the school's various teams. Curtis (2012) states, "During this decade, states increased the mathematics course requirements for high school graduation, and the number of high school students taking courses in mathematics increased by 69%" (p. 779). With new school policies being immersed in science, technology, engineering, and mathematics (STEM), it is imperative that school leaders consider how their leadership role plays an important role in math teachers staying in the career and helping the school reach its goals.

Jacob (2007) explains, "Teachers play a critical role in schooling, particularly in inner-city school districts where children often have less support at home. But central-city districts often have difficulty finding qualified teachers" (p. 130). Students in minority and urban schools are far more likely to be taught by teachers teaching outside of their field (non-mathematics endorsed) and by less experienced teachers. Brown and Wynn (2009) found, "Minority children are regularly assigned less qualified, less experienced teachers than are white children" (p. 39). Given the importance of mathematics as a gateway to so many of the high paying jobs of the

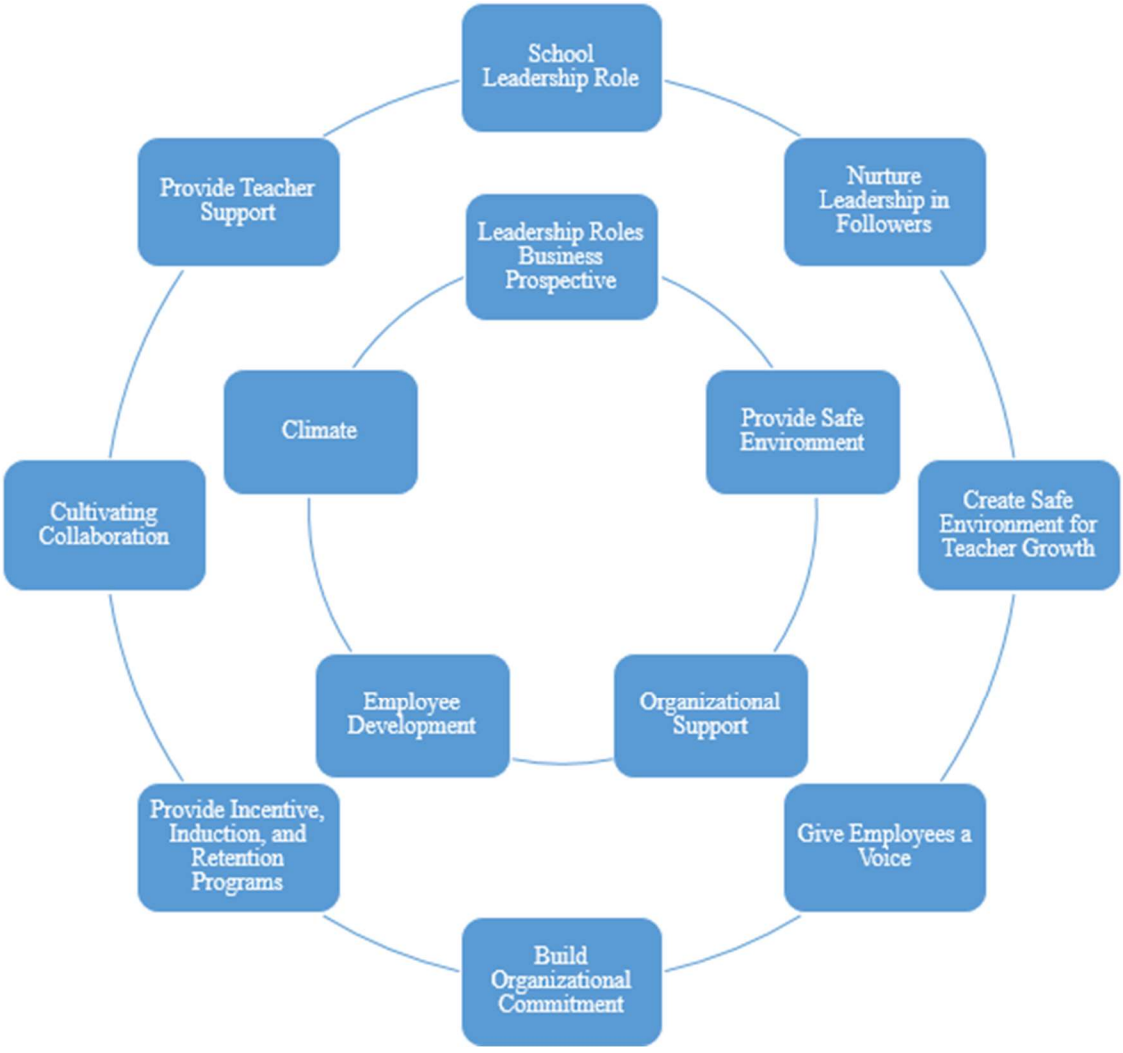
future, failing to provide equitable opportunities to historically marginalized students has significant implications.

Studies have shown that many teachers in these areas have left the profession by year four. For instance, Curtis and Wise (2012) assert, "Results in their study indicated that participants entered teaching because of a desire to work with young people, a love of mathematics, and wanting to make a difference. Reasons for leaving the teaching profession centered on low salary, teacher blame, and lack of administrative support" (p. 75). With the push to ensure that our students are being taught 21st century skills needed for career and college pursuits; it is imperative that all schools have and retain highly qualified teachers in all subject areas, especially in mathematics.

Conceptual Framework

This study was aimed at helping school administrators retain their highly qualified mathematics teachers in their urban schools. My study examined the lens of leadership factors that relate to the retention of secondary mathematics teachers. The chosen lens was a mixture of the factors that are working according to the literature (see Table 1). My inner most circle displayed the leadership role from a business prospective. In this inner circle, the successful leader helped to maintain a healthy working climate, enhanced employee development, provided organizational support, and provided a safe working environment. My outer most circle displayed the leadership role from the school prospective. In this outer circle, the successful leader provided teacher support, cultivated collaboration, provided incentives, provided adequate induction, retained teachers, built organizational commitment, gave their employees a voice, created a safe environment for teacher growth, and nurtured leadership in followers.

Table 1: *Leadership Factors*



Purpose and Problem Statement

The purpose of this qualitative study was seeking to understand the experiences of school leaders through the factors related to the retention of secondary mathematics teachers. A major problem that schools face throughout Virginia is retaining highly qualified mathematics teachers. Mathematics teachers are teaching in very high stakes arenas and under high levels of stress. Administrators need to create and maintain cultures where these highly needed teachers would want to stay. It is a daunting task to recruit highly qualified mathematics teacher in secondary

schools. Once these teachers have reached highly qualified status, it is important for school administrators to nurture these teachers. The topic for this study was seeking to understand the factors related to school administrators retaining highly qualified mathematics teachers at the secondary level. I conducted this study because schools are moving to implement science, technology, engineering, and mathematics programs within their school districts. School administrators can help this endeavor by creating a culture for retaining their highly qualified mathematics teachers.

Research Questions

This study was seeking to find leadership factors related to the retention of secondary mathematics teachers. The following questions served as a guide to this qualitative study:

1. What are the experiences of current school administrators related to the programs and practices that help new mathematics teachers ease into the profession?
2. What are the experiences of current administrators related to the retention techniques that ensure the highly qualified teachers remain in these schools?
3. What are the experiences of current school administrators related to how teacher self-efficacy relates to teacher resiliency and ultimately teacher retention?

Definition of Terms

Definitions were included in this section to familiarize the readers with reoccurring and key terms used for the purpose of this study.

1. **Highly qualified teachers** are teachers who have a collegiate background in the subjects they are teaching (Darling-Hammond & Berry, 2006). These teachers have at the minimum a bachelor's degree or advanced degrees in their teaching content after

receiving full certification following an accredited preparation program (Darling-Hammond & Berry, 2006).

2. **Self-efficacy** is related to the amount of confidence that the teacher has in their ability to complete tasks successfully (Yost, 2006). According to Goddard, Hoy & Hoy (2002) "Analogous to self-efficacy, collective efficacy is associated with the tasks, level of effort, persistence, shared thoughts, stress levels, and achievement of groups" (p. 482).
3. **Urban Schools** are classified as city schools. These schools are located in low socioeconomic status areas; where students often have greater needs and have low academic performance (Allen, 2005; Ingersoll, 2003).
4. **Attrition** is a reduction in the number of employees or participants that occurs when people leave because they resign, retire, etc., and are not replaced (Merriam-Webster Dictionary, 2015).
5. **Teacher retention** is being able to keep teachers in schools for more than a few years (Darling-Hammond, & Berry, 2006; Exstrom, 2003; Scott, Milam, Stuessy, Blount & Bentz, 2006; Struyven & Vanthournout, 2014).

CHAPTER 2

REVIEW OF LITERATURE

Teacher Attrition

Teacher attrition issue

Attrition is a reduction in the number of employees or participants that occurs when people leave because they resign, retire, etc., and are not replaced (Merriam-Webster Dictionary, 2015). Literature defines teacher retention as being able to keep teachers in schools for more than a few years (Darling-Hammond, & Berry, 2006; Exstrom, 2003; Scott et al., 2006; Struyven & Vanthournout, 2014). Teachers tend to leave the field within the first five years (Curtis 2012; Darling-Hammond & Berry, 2006; Exstrom 2003; Scott et al., 2006; Struyven & Vanthournout, 2014). According to Stuessy, Blount, and Bentz (2006), "teaching as an occupation loses many of its newly trained members very early in their careers" (p. 389). Exstrom (2003) further states, "NCTAF (The National Commission on Teaching and America's Future) found that almost a third of new teachers leave the classroom after only three years, and nearly 50 percent leave after five years" (p. 26). Nearly 50 percent of teachers leave or migrate from their original schools and these rates are higher in impoverished communities (Bobek, 2002; Allen, 2005).

Impact on students

During this section of the literature review, I attempted to find the direct and indirect impact teacher attrition might have on student learning. Student academic success has links to having highly qualified teachers in the classroom. Some highly qualified mathematics teachers tend to leave schools that have lower achieving students, which may affect those students by leaving them in the classroom with unexperienced, and in some cases, uncertified mathematics teachers. Over time there has been an increase in the number of teachers who have degrees in

math, however, there still exist difficulty in retaining these teachers at certain schools. Finally, research has yielded some evidence that kids learn math in a more effective way when taught by mathematics teachers who have mathematics degrees and certifications.

Teacher attrition is a major factor in student lack of success. Curtis (2012) found that attrition rates are higher for schools with high poverty and low academic achievement. Boyd, Lankford, Loeb, and Wyckoff (2005) assert that newer teachers who are not highly qualified usually teach low achieving students. Highly qualified teachers are also vital to closing the gap between low-income and minority students (Exstrom, 2003). Darling-Hammond and Berry (2006) also state, "Studies show that well-prepared and well-supported teachers are important for all students, but especially for students who come to school with greater needs" (p. 15). Many students in urban schools come from low economic areas and are minority students who may have greater needs that need to be met by experienced, highly qualified teachers. However, these students are often taught by inexperienced and under qualified teachers (Darling-Hammond & Berry, 2006). According to Ingersoll (2011), "Increasing teacher retirements and increasing student enrollments, we are told, have forced many school systems to lower standards to fill teaching openings, leading to high levels of underqualified teachers and, in turn, to lower student performance" (p. 37).

Highly qualified teachers are more likely to relocate to other schools or quit when teaching students that have lower achievement after accounting for student and teacher race (Boyd et al., 2005). Women have higher attrition rates than men, while minority teachers have lower attrition rates than nonminority teachers (Curtis, 2012). Research yields substantial evidence that white teachers tend to leave schools that have a high rate of minority students (Hanushek, Kain, & Rivkin, 2004). However, in the same study, Hanushek et al. (2004) found

that black and Hispanic teachers are less likely to leave their teaching position if the school has a growing percentage of black and Hispanic students.

Students need to have teachers in the classrooms who are highly qualified mathematics teachers. Since these teachers are leaving the field at an alarming rate, students are often left in the classroom with non-certified teachers and long-term substitutes (Exstrom, 2003). However, Curtis (2012) through his study found, "In the same decade, the number of teachers with mathematics degrees increased by 74%" (p. 779). Therefore, it would appear that the number of teachers with math degrees have increased over the years, according to the literature. Boyd et al. (2005) further state, "Second, the generally high teacher turnover in lower-performing schools disadvantage students in those schools since the effectiveness of teachers increases over the first few years of their careers" (p. 166). Thompson and Smith (2004) described that some urban school students come to school without necessities like food, clothing and supplies, and live in homes where adults are rarely home because they are at work. Perhaps many teachers come into the field with the right intentions, but when they have to face some of the situations day to day situations with this clientele; they end up leaving the teaching field. Many of these students are already at a disadvantage and are coming to schools where many teachers are not fully certified or highly qualified to teach in.

When it comes to degrees, coursework, and certification, it was found that high school students learn more from teachers with certifications and degrees in mathematics (Wayne & Youngs, 2003). Dawson (2007) made an interesting inference about how students either remain interested in math and science in their secondary years or turn completely away from it; therefore, producing students who would not consider teaching math or science when they grow up. Ingersoll (2011) further infers that many mathematics and science teachers never enter the

classroom, opting for different jobs that are more monetarily substantial. Students in mathematics should have teachers who are highly qualified in their respective disciplines to enhance the chances of their success.

Shortages and trends

Teacher shortages are not a new phenomenon. Teachers are often leaving their positions for reasons other than retirement and recruitment programs are not going to solve the attrition issue of retaining these teachers (Ingersoll, 2001; Ingersoll, 2003). School size, locality, economic status, grade level, and type of school play a role in teacher retention (Tye & O'Brien, 2002). Teacher shortages have been apparent in studies and national trends for more than a decade (Exstrom, 2003; Scott et al., 2006). Scott et al. (2006) conducted a study and found, "The shortage of certified teachers in mathematics and science in Texas classrooms is a major concern and mirrors national trends" (p. 389). Shortages are greater in certain subjects and grades in secondary math (Jacob, 2007). This phenomenon has also led school districts to create new incentive programs and different avenues to obtain licensure.

Donaldson and Johnson (2011) conducted a study with Teach for America teacher and found:

> 76.2% of math teachers with a math major taught more than two years, compared with 60.0% of math teachers without a math major. Fifty percent of math teachers without a major in math left teaching within 2.51 years, while half of those with a math major left within 4.08 years (p. 50).

According to Donaldson and Johnson (2011), these teachers left the field due to challenging teaching assignments and teaching courses in which they were not prepared to teach. Allen's (2005) study found that attrition is higher at the middle and high school level than at the

elementary level, and that science and mathematics teachers are more likely to leave their positions than teachers of other secondary subjects.

Kaiser (2011) looked at the results of a longitudinal study from the National Center for Educational Statistics (NCES) and found "Of the beginning public school teachers, about 74 percent were teaching in the same school in 2009–10 as in the previous school year (stayers), about 10 percent were teaching in a different school in 2009–10 than the previous school year (movers), about 3 percent had returned to teaching in 2009–10 after a year of not teaching (returners), and about 12 percent were not teaching in 2009–10 (table 4)" (p. 3). Therefore, according to the research teacher retention has improved from the early 2000s until 2010. Smith and Ingersoll (2004) express that turnover is inevitable and could be beneficial for the organization. In contrast, Curtis (2012) states, "High teacher turnover in schools creates instability, which hinders student achievement and the implementation of reforms" (p. 779- 780). High levels of turnover can hinder coordinating curriculum, tracking student information as they move through their grade levels, and maintaining good parent and local relationships (Donaldson & Johnson, 2011). Researchers found that high employee turnover is the effect and cause of many performance issues in organizations (Ingersoll, 2003).

Reasons why teachers leave profession

During this section of the literature review, I attempted to find the reasons that teachers may leave the teaching profession. There is a list of reasons why teachers leave the field; however, teachers receiving the inadequate support from administration seem to be at the top of the list in many studies. Some teachers in these studies feel like they were not adequately prepared for real life classroom situations commonly faced by teachers in high need schools. Research has also yielded some evidence that teacher lack confidence in their beginning years

and may lead to newer teacher exiting the field. Teaching can be extremely challenging and teachers get burned out, which may impact teacher attrition. Teachers also leave the field due to lack of money and the opportunities for career growth offered by their personal school and or school system. I also presented the pros and cons of increased salary and bonuses in the form incentives to bring highly qualified teachers into high need schools. For example, what happened, in terms of teachers leaving schools, after these incentives have ran its course? Finally, I presented how the loss of teacher tenure may not deter teacher leaving one school system for another.

Understanding the reasons why teachers leave the profession is imperative for all school administration, especially for principals that work directly with teachers. One of the leading reasons teachers leave the field is due to a lack of support from the administration and staff (Curtis, 2012; Curtis & Wise, 2012; Petty, Fitchett & O'Connor, 2012; Struyven & Vanthournout, 2014). Curtis (2012) further states, "Teacher blame, low salary, the effects of the No Child Left Behind legislation, and lack of administrative support are primary reasons for leaving" (p. 787). Along with lack of support from administration, teachers in urban schools find themselves in relatively adverse school environments and teachers in these schools are often given difficult tasks, may deal with student lack of interest and/or parent aggression (Struyven & Vanthournout, 2014; Thompson & Smith, 2005). New teachers often leave the profession because they are assigned the classes that experienced teachers do not want, such as those with difficult students, or they are given the most difficult responsibilities outside of the classroom (Johnson, 2001). Novice teachers have to continuously prove themselves to get recognition for their hard work and receive positive assessments; then they are given the most difficult classes and frustrating tasks (Struyven & Vanthournout, 2014). Thompson and Smith (2005) further

state, “Urban school students come from low socio-economic backgrounds where the adult(s) in the house may be at work and unable to provide the academic and emotional support needed in order for a student to become successful in school” (p. 74). Therefore, student support in these schools may only come from the teachers and other in-school stakeholders. Continuous low performance in a school on standardized tests could also be a deterrent in recruitment and retention of these teachers (Roellke & Rice, 2008). Tye and O'Brien (2002) conducted a study and interviewed teachers who had left the field and found, “Those respondents who had already left teaching ranked the pressures of increased accountability (high-stakes testing, test preparation, and standards) as their number-one reason for leaving, followed closely by increased paperwork, changing student characteristics, negativity and pressure from parents and the community, and tension between teachers and administration” (p. 4).

New teachers are usually not prepared for the situations they may face in urban schools and this inexperience causes them to leave the profession (Thompson & Smith, 2005). Teacher preparation programs may not be preparing our future teachers for the reality of what teaching entails (Curtis, 2012). In the Curtis and Wise (2012) study, one of the participants responded, “He felt that he was prepared to teach mathematics, but not prepared to discipline students” (p. 76). Curtis and Wise (2012) further found, “The interviewed teachers felt they were least prepared in classroom management and most prepared in their content area” (p. 77). According to the Dawson (2007) study, “Workload and classroom management issues were frequently cited reasons for leaving the profession” (p. 30). Low performing schools also have implications for its staffing (Roellke & Rice, 2008). Teachers often find themselves under pressure and held accountable for students who display disruptive behaviors and non-achievement (Friedman,

2003). Teachers often have an illusion of what teaching involves and then find that the actual experience is considerably different when they step into the classroom (Curtis, 2012).

One of the most important times of a teacher's career is during the beginning years. During these years, teachers are trying to do the best for their students and need support from the school administration and fellow coworkers. Lack of confidence is a reason that some teachers leave the profession in the beginning of their careers (Thompson & Smith, 2005). Teachers are coming into a career that impacts the lives of others in many different ways and it is imperative that school administrators build their confidence. Teachers also leave the field due to inadequate induction and lack of stability during the first years (Petty et al., 2012; Struyven & Vanthournout, 2014). Teachers also leave the profession because principals do not help them monitor their own progress (Johnson, 2001).

Teaching is a challenging profession and not one for the faint at heart. Ingersoll (2011) conducted a study pertaining to math and science public school teachers and found that there was a large number of teachers who reshuffle schools due to dissatisfaction with their current positions. Tye and O'Brien (2002), further assert, "Apparently, it was the work environment itself that ultimately proved unbearable, and the pressures connected to standardized testing were a prominent feature of that work environment" (p. 4). Many teachers leave the profession due to burnout, lack of job satisfaction, and the pressure of the day to day functions (Petty et al., 2012; Struyven & Vanthournout, 2014). Psychological burnout and lack of administrative support are frequent reasons for teachers leaving schools entirely (Petty et al., 2012). Struyven and Vanthournout (2014) identified five main reasons that teachers exit the profession, based on 66 participants, and workload was one of the overarching reasons. Lindqvist, Nordänger, and Carlsson (2014) conducted their study in Sweden and found, "Work overload, increased

documentation and the notion of altered professional objectives are now often mentioned as triggers for considering leaving" (p. 102).

Another reason that teachers leave the profession is due to low salary and lack of opportunities for career growth (Exstrom, 2003; Petty et al., 2012; Struyven & Vanthournout, 2014). Petty et al. (2012) found that financial incentives were important in recruiting and retaining teachers. Liu et al. (2007) found that teachers who hold advanced degrees in mathematics and science were more likely to move to schools or other professions that offered higher salaries. Many teachers leave the field because they are dissatisfied with their jobs and want to seek better jobs or other career opportunities (Ingersoll, 2003).

Many high need schools attempt to attract teachers with monetary incentives. However, research is inconclusive that these incentives have an impact on teacher quality (Allen, 2005; Clotfelter, Glennie, Ladd, Vigdor, 2008). Exstrom (2003) states, "Over the past decade legislators have created new policies that increase salaries, give signing bonuses, forgive loans, coax retirees back and mentor new teachers" (p. 28). However, according to Jacob's (2007) study on the challenge of staffing urban schools with effective teachers, there is little to no research showing that salary increases and bonuses actually work. A question posed by Lindqvist et al. (2014) posits that perhaps there is a reason that we should abandon the idea of teaching as a long term career? They found that economics plays a significant role in teachers leaving the field.

Darling-Hammond and Berry (2006) suggested:

> The federal government should launch a substantial, sustained program of service scholarships and forgivable loans allocated on the basis of academic merit and personal commitment, with special incentives for those who train in high-need fields like

> mathematics, science, and special education. Such scholarships should be awarded in exchange for a commitment to teach for 3-5 years in high-need schools (p. 18)

However, after these incentives have run their course, teachers often leave the profession. Retention rates diminish for every year following the teacher incentive (Petty et al., 2012). So perhaps these incentives should extend through a teacher's career in some way. There is limited evidence to support a positive correlation between recruitment and different financial incentives or increased compensation in teacher recruiting (Allen 2005). Perhaps, along with incentives, teachers want to have the opportunity for upward mobility. In the Struyven and Vanthournout (2014) study, "the lack of future prospect was found to be the most salient reason for abiding a teaching career" (p. 43). Lack of future prospect was also associated with lack of opportunities for career growth and income guarantees (Struyven & Vanthournout, 2014).

When teachers do leave one school for another, they essentially lose their tenure. According to research, this loss is not deterring teachers from leaving. Some school districts deny credit for past years' experience to discourage job mobility (Tye & O'Brien, 2002). Roellke and Rice (2008) state, "Since experienced teachers generally lose their tenure and credits for years of service when they change jobs, some school systems have begun to offer experienced teachers tenure or years of service reciprocity in exchange for relocating to schools in their district" (p. 268). There was a time when experienced teachers would stay put because staying outweighed the benefit of leaving to work at another school (Tye & O'Brien, 2002). More salary and bonus programs are good for enticing teachers to teach in challenging schools; but are in some cases not enough to retain these teachers (Greenlee & Brown, 2009). Allen (2005) further states, "There is moderate evidence that working conditions may, in some cases, trump salary as a factor in teacher retention, and it is the *relative* salary between districts that is

the important consideration" (p. 9). Since some schools are making the effort to gain teachers for hard to staff schools and positions, these efforts could be undermining the decision of existing teachers who are trying to decide whether they want to leave or stay. However, Allen (2005) conducted a study on teacher recruitment and retention and stated, "The research reviewed for this report indicates that between 25% and 37% of those who leave teaching wind up returning at some point" (p. 5). Keep in mind that it costs the school a great amount of money to replace these teachers. Greenlee and Brown (2009) state, "It is estimated that the total cost for school districts nationwide to recruit, hire, and retrain replacement teachers to fill the positions is approximately 7.34 billion dollars" (p. 96-97). Curtis (2012) further insisted that high teacher turnover has a significant effect on the state and district budget due to the time and efforts that have to be made to recruit and train new teachers.

Challenge for urban schools

During this section of the literature review, I attempted to find the detailed motives pertaining to teacher attrition in urban schools. Urban schools face challenges in retaining highly qualified teachers. Highly qualified and effective teachers are more likely to leave urban school settings. The researcher presented findings of why some teachers decided to stay teaching in urban school and why some left these schools. Finally, we presented how preparation and retention programs aid in reducing teacher attrition.

Urban schools share many challenges in retaining highly qualified teachers (Darling-Hammond & Berry, 2006; Dawson, 2007; Exstrom, 2003; McClure & Reeves, 2004; Petty et al., 2012; Thompson & Smith, 2005). There is moderate evidence that teacher turnover is higher in school with low income, minority and low academic performing students (Allen, 2005; Ingersoll, 2003). Urban schools have slightly higher turnover than rural and suburban schools (Ingersoll,

2003). Additionally, high need schools experience difficulty in filling teaching positions (Darling-Hammond & Berry, 2006; Dawson, 2007; Exstrom, 2003; Petty et al., 2012; Thompson & Smith, 2005). One in four secondary school mathematics teachers do not have a major in mathematics, the average age of mathematics teachers is 44 years old, and three quarters of urban schools find it difficult to attract qualified mathematics teachers (Dawson, 2007).

Schools that serve students of disadvantaged populations often have teachers that are not highly qualified based on inexperience; Therefore reducing turnover in these schools may be beneficial to student achievement (Hanushek et al., 2004). Unfortunately, teachers who tend to leave urban schools are typically more highly qualified than those who decide to stay and teachers hired to fill vacated positions are often new and inexperienced (Hanushek et al., 2004; Jacob, 2007). Experts warned lawmakers over the past decade that there is a shortage of good teachers, especially in poor, low-achieving schools (Extrom, 2003). There is often a stigma associated with high need schools due to NCLB labeling them as failure schools (Darling-Hammond & Berry, 2006). These stigmas may keep teachers from taking positions at these schools and can make it hard to retain the teachers already working there. There exists an increasing problem of recruiting and retaining teachers in schools where environments are not positive and to which negative stigma are attached (Smith, 2005).

Some teachers stay in urban schools because they care for the students; they receive strong administrative support, and they like the school environment (Petty et al, 2012). Well educated, novice teachers will also stay in these schools if they feel that they can succeed in them (Donaldson & Johnson, 2011). However, Petty et al. study (2012) also found, “Many teachers were leaving their schools because of retirement or relocation” (p. 80). In Roellke and Rice’s (2008) study, “Many principals and teachers reported community safety as a problem that makes

the school unattractive to prospective teachers and that undermines the retention of existing teachers" (p. 290). Many of these schools do not have experienced teachers who can serve as mentors for newer teachers; causing novice teachers to fail and leave the school (Darling-Hammond & Berry, 2006). Thompson and Smith (2005) found that enthusiasm and a new teacher's confidence level in assuming their professional roles was an important factor in the recruitment and retention of teachers. Hanushek et al. (2004) further alluded that schools with high amounts of minority students have a higher level of disciplinary problems, increasing teacher turnover. These schools tend to have a lack of rigid bureaucracies and good leadership, as well as low student turnover and little to no general safety concerns.

Some studies found that practices for recruiting and retaining highly qualified teachers in urban schools should start in high school and college preparation programs (Darling-Hammond & Berry, 2006; Petty et al., 2012; Scott et al., 2006; Thompson & Smith, 2005). However, there is a short supply of math undergraduate students due in part to the economy because students who were math majors are changing to majors that will yield a more lucrative career (Moin, Dorfield, & Schunn, 2005). Some subsequent challenges are gaps in preparation to teach in schools with challenging students (Roellke & Rice, 2008). Yet Allen (2005) found limited evidence that teacher preparation has any significant impact on recruitment and retention. Darling-Hammond and Berry (2006) suggested, "The federal government should develop 'grow your own' programs in urban and rural areas because many young teachers strongly prefer to teach close to where they grew up or went to school" (p. 18). Thompson and Smith (2005) conducted a study on a program that prepared students for teaching; they highlighted the importance of the students having a real world experience in the urban schools prior to teaching. Artzt and Curcio (2008) conducted a study on the TIME 2000 program, which was created to

recruit and retain teachers in the New York City area. Artzt and Curcio (2008) said that students in the program developed intense friendships with fellow students. For example, the students shared resources, like lesson plans with their fellow classmates, they received real life teaching experiences while in the program, graduates remained in contact with their professors, and graduates came back to campus for post program debriefings.

Reasons why teachers stay in profession

Understanding the reasons why teachers stay in the profession is equally as important as understanding why teachers leave. Significant factors in recruiting and retaining teachers include actions by the school principal, financial incentives, and working conditions (Petty et al., 2012). However, Allen (2005) found limited evidence that working conditions play a significant role in the recruitment and retention of teachers. Perhaps as time has passed between these studies, working condition became more prevalent for teachers leaving or staying in the profession. The teachers in this study identified salary as the number one factor in retaining teachers in high need schools (Petty et al., 2012). Allen (2005) also found that compensation played a key role in retaining and recruiting teachers. However, some teachers planned to stay due to the relationship with their students, administrative support, and the school environment (Petty et al., 2012). Ingersoll (2011) further stated, "Schools with fewer student behavioral problems, that allow teachers greater professional autonomy in their classrooms, and that provide better opportunities for teachers to learn and grow as professionals had significantly fewer departures of math or science teachers" (p. 41). Teachers in urban school environments made comments in a study that pointed toward the importance of picking schools that were supportive and conducive to collaboration (Thompson & Smith, 2005).

Cultivating teacher self-efficacy

Self-efficacy

According to research, teacher self-efficacy may have profound links to burnout and job satisfaction (Dimopoulou, 2014; Pas, Bradshaw, & Hershfeldt, 2012; Roellke & Rice, 2008; Schwarzer & Hallum, 2008; Viel-Ruma, Houchins, Jolivette & Benson, 2010). Dimopoulou (2014) states, "According to social cognitive theorists' people's feelings of self-efficacy affect several aspects of their behavior, including their choice of activities, their goals, their effort and persistence, and ultimately the quality of their performance and their learning" (p. 1377). During Viel-Ruma et al. (2010) study, they found that improving teacher self-efficacy can improve levels of job satisfaction, thus lowering levels of burnout. Teachers who mistrust their self-efficacy avoid dealing with academic problems and turn their efforts inward to relieve emotional distress (Friedman, 2003).

Schwarzer and Hallum 2008 state:

> According to theory and research, self-efficacy makes a difference in how people think, feel, and act. In terms of feeling, a low sense of self-efficacy is associated with depression, anxiety, and helplessness. Persons with low self-efficacy also have low self-esteem, and they harbor pessimistic thoughts about their accomplishments and personal development. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making and academic achievement (p. 153).

According to research on special education teachers, self-efficacy appears to be considerably related to teacher job satisfaction and professional development. Therefore, self-efficacy paired with strong induction programs may be a way of reducing the attrition rate of

teachers (Viel-Ruma et al., 2010). Minority teachers may have lower self-efficacy and higher rates of burnout in comparison to their other coworkers (Pas et al., 2012). Pas et al. (2012) further state, "As mental health providers, school psychologists understand the importance of preventing the emotional exhaustion associated with burnout and can assist school administrators in preventing the negative consequences of poor teacher efficacy and burnout (e.g., turnover and poor student achievement)" (p. 143).

Self-efficacy in adverse situations

According to the research for this study, some schools may have environments that are adverse and may hinder teacher self-efficacy. Consequently, adverse situations can pose an environment that can actually enhance teacher resilience (Bobek, 2002). Brown and Wynn (2009) state, "School leaders play an important role in shaping building-level factors that can affect new teachers' attitudes toward the profession and their sense of efficacy as educators" (p. 43). School administrators and new teachers should develop a partnership type of relationship in building teacher resilience (Bobek, 2002).

Tye and O'Brien (2002) infer that teachers may internalize problems due to the inability to recognize how the school system where they work are ran. If these teachers are not taking time to discuss with fellow coworkers, they may turn criticism on themselves rather than the system itself. Positive relationships between seasoned and new teachers provide important support that can help to ease the new teacher's transition into the career and help them to get through the adverse times (Bobek, 2002). Teachers with low self-efficacy may blame themselves for schoolwide problems. Ware and Kitsantas (2007) further infer that self-efficacious teachers will take personal responsibility for their success/failures, while low self-efficacious teachers will look to outside factors to explain their success/failures. Bobek (2002) further state, "To develop

resilience, new teachers must be lifelong learners, willing to venture into areas that may challenge their current views of themselves and their practices" (p. 203).

Links to student achievement

Research indicated that teacher self-efficacy might have links to student achievement. If a teacher is committed to the philosophy of their teaching orientation, they will have a greater sense that they are having a positive impact on their students (Dimopoulou, 2014). However, Friedman (2003) states, "teachers with a low sense of instruction efficacy think that there is little they can do if students are poorly motivated, and that the influence teachers can exert on their students' intellectual development is severely limited by non-supportive or opposing influences from the home and the community in which the student's lives" (p. 192). Therefore, teacher's self-efficacy beliefs may have positive and/or negative effects on student achievement. Teachers who have a high level of self-efficacy will persist and overcome challenges in the classroom and persist with students who are having difficulties (Ware & Kitsantas, 2007). Related to self-efficacy, teachers who are not prepared to teach their subject with competence are doing a disservice to themselves and the students that they teach (Bobek, 2002).

School administrators should be careful how they evaluate these teachers while fostering their self-efficacy. Jacob and Lefgren (2005) found that subjective principal evaluation of teachers, plus value added measures of teacher effectiveness are effective when it comes to predicting future student achievement. Teachers are more likely to be willful, contributing members of the school community when they feel like their work is important and being recognized (Sargent, 2003). Teacher successes, other than improvement on testing scores, should be congratulated often in order to maintain teacher resilience (Bobek, 2002). Teacher self-efficacy is an important variable that is linked to possible teacher turnover and low student

achievement (Dimopoulou, 2014; Pas et al., 2012). Dimopoulou (2014) further states, "The task of creating learning environments conducive to development of cognitive skills rests heavily on the talents and self-efficacy of teachers" (p. 1378).

School culture and teacher development

Teacher self-efficacy is a component that could prosper through school culture and during the stages of teacher development. Schools may benefit from practicing activities that promote strong relationships with their stakeholders and collegial support, which could have a positive effect on teacher self-efficacy and burnout (Pas et al., 2012). Teachers simply what to work in an environment where they feel they are more effective (Dimopoulou, 2014; Roellke & Rice, 2008). Ingersoll (2011) further states, "The high rates of math and science teacher turnover in these schools do not appear to be a matter of student and school demographic characteristics per se, but are largely a matter of worse job conditions, such as high levels of student misbehavior, low-quality school leadership, a lack of classroom resources, little faculty input into school decision making, and inadequate opportunity for professional development" (p. 41). Some research provides evidence that teacher effectiveness is linked to teacher self-efficacy (Dimopoulou, 2014). Friedman (2003) further states, "Teachers with a low sense of self-efficacy will use less effective measures of coping mechanisms, and their chances of failure will be higher" (p. 209). The school culture should be conducive to fostering teacher self-efficacy. Teacher engagement is positively associated with personal coping resources, whereas teacher burnout is indicated with low levels of self-efficacy (Schwarzer & Hallum, 2008).

School Leadership

Leadership Roles: A Business Prospective

Climate and employee development

Climate and employee development are two of the most important factors in the role of leadership (Dysvik & Kuvaas, 2012; Paterson, Luthans, & Jeung, 2014). According to Paterson et al. (2014), "This study provides empirical evidence that by taking an interest in the well-being and development of subordinates, supervisors can establish a supportive work environment that provides the climate necessary for employees to take appropriate risks, explore new ways of doing things, and act agentically" (p. 443). Another study found that there existed a positive relationship between perceived supervisor support climate and perceived investment in employee development climate within the business unit (Dysvik & Kuvaas, 2012). Therefore, supervisors should provide a climate where employee development takes center stage.

Business literature also highlights employee learning as a significant responsibility for organizational leaders, managers, and supervisors (Lancaster, Di Milia, & Cameron, 2013; Paterson et al., 2014). Leaders in business environments provide and initiate learning experiences and build positive relationships through supporting insubordinates prior to, during, and after appropriate training (Lancaster et al., 2013). Employees in these studies want to know that their supervisors show interest in their learning experiences (Lancaster et al., 2013; Paterson et al., 2014). According to Sykes (2015), "organizations might be better served to utilize resources for engineering employee peer advice ties, perhaps by making helping one's peers a part of competent employees' work, beyond investments in traditional expenditures on training, online support, help desk support, and change management support" (p. 489). Employee learning may be transferred better when peers are helping each other through the learning

process. As such, leaders should assess the degree to which subordinates are leaning and striving at work (Lancaster et al., 2013; Paterson et al., 2014; Sykes, 2015).

Organizational support

Supervisors in the business settings also have the role of nurturing their employees through providing organizational support in a number of ways (Garner, 2016; Kammeyer-Mueller, Wanberg, Rubenstein, & Song, 2013; Lancaster et al., 2013; Wei Tian, Cordery, & Gamble, 2016; Neves & Eisenberger, 2014; Schreurs, Hetty van Emmerik, Günter, & Germeys, 2012; Shoss, Eisenberger, Restubog, & Zagenczyk, 2013). Piggybacking on employee learning and training, Wei Tian et al. (2016) state, "The findings from this study extend existing knowledge relating to the impact of support for training transfer, providing evidence that perceptions of supervisor support and peer support for training transfer are both associated with reports of higher task performance and organizational citizenship behavior and reduced turnover intention." (p. 12). Organizational leaders should also realize that their support figuratively spills over, not only in the workplace, but also extends into the employee's personal life and well-being (Ferguson, Carlson, & Kacmar, 2015; Kammeyer-Mueller et al., 2013). An employee's family time and demands should be important to leaders and that impression should be apparent through the support they provide employees at work. Spouse's personal feeling about an organization will also have some effect on the commitment of the employee (Ferguson et al., 2015). Therefore, leaders should provide support for their subordinates through communicating that they should attempt to keep stress from impacting their home life, thereby maintaining happiness in the family domain (Kammeyer-Mueller et al., 2013).

Providing the safe environment

Supervisors can provide support by establishing an environment that is safe for employees; where employees can feel a sense of job security, alleviated stress, and that they have a supervisor who promotes equality in the organization (Byrne, Pitts, Wilson, & Steiner, 2012; Garner, 2016; Lancaster et al., 2013; Mayo, Sanchez, Pastor, & Rodriguez, 2012; Neves & Eisenberger, 2014; Peng, Schaubroeck, & Li, 2014; Schreurs et al., 2012; Shoss et al., 2013). In a study on supervisor behaviors that facilitate training transfer, Lancaster et al. (2013) state, "Participants who reported culture as a hindrance found that on returning from a supportive and "safe" training environment, the work environment was not conducive to making workplace changes" (p. 18). Therefore, supervisors should treat their employees in a fair and consistent manner at all times to help create a safe environment that may be conducive to creating change (Byrne et al., 2012). In this safe environment, supervisor's behaviors can positively or negatively influence relationships between themselves and their employees, in addition to influencing the relationships amongst the employees (Lancaster et al., 2013; Peng et al., 2014).

Peng et al, 2014:

> Our findings suggest that leaders' abusive behaviors can have detrimental effects on individual task performance and helping behavior by creating negative interpersonal dynamics, not only between the leaders and their followers but also among their followers. This may ultimately diminish the performance and adaptive capabilities of work units when their members must work together to adapt to changing task demands, or simply to perform optimally (p. 1400).

Supervisor should always keep their attitudes toward the organization in which they work neutral, because employees will use those behaviors as guidelines for their own behaviors and attitudes (Neves, & Eisenberger, 2014).

Supervisors should be aware of feelings that their employees have when they are insecure about their jobs and try to alleviate stress for them (Mayo et al., 2012; Schreurs et al., 2012). In developing the environment, supervisors have the influence to alleviate stress, which can help with medical symptoms and physical stressors caused by job tension (Mayo et al., 2012). Job stress can lead to some workplace dissent; however, supervisors may be able to provide support through how they deal with the dissent. Garner (2016) found through his study that, "Successful dissent was characterized by a solution-orientation, rational logic, alignment with organizational goals, expressed to someone who can enact change, and expressed through proper channels" (p. 42). Supportive supervisors will make themselves available during dissent and other situations that require clarification, but they will also know how to distinguish between things that they can help change versus things that cannot change due to policies or procedures (Garner, 2016; Lancaster et al., 2013). Finally, supervisors can provide support through perhaps helping their employees feel secure in their work. Schreurs et al. (2012) found in their study that, "During weeks in which individuals felt insecure about their job, they performed worse in terms of meeting organizational objectives and fulfilling the requirements of their job" (p. 270). In this same study, the researchers found that employee performance fared better during the week when supervisors provided support (Schreurs et al., 2012).

School Leadership Role

School administrators play a very important role in the retention of highly qualified teachers. According to Jacob (2007), "Administrators in urban schools may not recognize or value high-quality teachers" (p. 129). Fall (2010) further states, "School and district leaders should ensure a range of supports tailored to address the challenges new teachers face in high poverty contexts" (p. 78). This list of administrative roles is by no means an all-inclusive fix all for retaining highly qualified teachers.

Brown and Wynn (2008) state:

> When describing their efforts to recruit, retain, and support new teachers, most of the participants in this study principals and teachers alike-described similar informal strategies in keeping new teachers informed, renewed, and inspired. These principals provide conditions and resources needed to support new teachers in their continuous learning, growth, and professional development. They share decision making with new teachers on substantive issues, work collaboratively with others to reach shared goals, and expand teacher leadership capacity. They model high expectations for all and keep the vision of student learning alive and at the forefront of all decisions. They maintain an open door and a visible presence throughout their schools. They encourage and support collegiality among all teachers and provide nurturance, guidance, and leadership when needed (p. 691- 692).

School administrators can also benefit from including new hires in their end-of-year meetings and student orientations; along with inviting new staff to their colleagues before the start of the school year (Sargent, 2003). School leaders should evaluate how our future teachers are prepared for teaching and how they are treated once they start teaching (Curtis, 2012).

Supervisor support

Lack of administrative support is one of the top reasons why teachers leave the profession (Curtis, 2012; Curtis & Wise, 2012; Petty et al., 2012; Struyven & Vanthournout, 2014). Brown and Wynn (2008) found, "It is a complex balancing act for principals to structure flexibility with an almost intuitive sense of treating beginning teachers as skilled professionals while recognizing that they need different types of support than do veteran teachers" (p. 692). Johnson (2001) interviewed a teacher named Jason who left after one year of teaching, because he felt unsupported by his principal who placed burdens on new teachers for which they were not ready. Overall, this principal was accommodating to veteran teachers, but not the new teachers. Teachers seek school leaders are supportive and delegate authority (Petty et al., 2012). Principals that are most successful in retaining teachers are ones who are self-motivated, have positive problem solving ability, and take risks (Curtis, 2012). Freidman (2003) further infers, "Teachers' perceived lack of support from colleagues and principals had a significant effect on their self-efficacy beliefs in eliciting support from them, and those efficacy beliefs predicted their level of burnout" (p. 209). Administrators also provide support through being passionate about the profession, building good relationships with subordinates, supporting all teachers, giving them freedom to make decisions, providing opportunities for growth in the profession, being available, empowering followers, and providing structured planning time (Curtis, 2012).

Darling-Hammond and Berry (2006) further state:

> With so many new and lateral-entry teachers on staff, the district does not have enough experienced, skilled teachers to serve as mentors. Without support, the new, untrained teachers are more likely to fail and leave, setting the revolving door in motion all over again. (p. 18)

Along with supportive professional development, teachers identify supportive principals as a powerful incentive to continue teaching in difficult schools (Roellke & Rice, 2008). Some teachers come to new schools and experience alienating forces which school administration can decrease by creating an environment that will keep them enthusiastic, energetic, and productive (Tye & O'Brien, 2002). Unfortunately, school administrators may be far too busy to mentor individual teachers on a personal basis. However, Johnson further states, "First-year teachers cannot be left in isolation and be expected to be successful" (p. 48). According to Friedman (2003), "Unmediated stress, overload, inadequate support, and absence of buffers, usually lead to burnout" (p. 192). Therefore, it is imperative that they support highly qualified teachers; so that they not only stay in the profession, but mentor and provide support for fellow teachers.

Administration cultivating collaboration

During this section of the literature review, I attempted to find the aims pertaining to school administrators cultivating collaboration. There were clear benefits of school administrators fostering a culture for collaboration. When school administrators and teachers work together, it benefits the success of the students and the school as a whole. School administrators can model collaboration through their induction programs for new teachers, which aid novel teachers in the beginning of their career in a new school. Finally, I presented the findings on the benefits school administration lead peer-mentoring programs and the retention of highly qualified teachers.

Administrators need to ensure that they are fostering a culture where teachers are collaborating. Of all the types of supports mentioned thus far, induction that is associated with the new teachers having a mentor that teach the same subject, in addition to being given common planning time and the opportunity to also collaborate with other teachers outside of their

departments (Brown & Wynn, 2009). Relationship building helps school administrators create important elements in a strong school culture (Sargent, 2003). Thompson and Smith (2004) conducted a study about a particular pre-service program that had success in training teachers for the education field. They found that teachers who were in the field after completing the program wanted to work in schools where collaboration was practiced along with environments that were overall positive. New teachers are least likely to leave their position at the end of the first year when they participate in group induction programs (Smith & Ingersoll, 2004). According to Greenlee and Brown Jr (2009), "Teachers should have access to competent, caring, and capable principals and skilled colleagues" (p. 98). Supportive collegial relationships between new and seasoned teachers enhance job satisfaction for new teachers (Bobek, 2002).

According to research, administrators and teachers can also benefit from collaborating together. Smith and Ingersoll (2004) state, "Mentorship programs, collaboration and planning time with other teachers, seminars for new teachers, and regular communication with administrators or department chairs were the major components used to integrate teachers into a new school" (p. 706). School administrators will establish positive mentor relationships by placing their new hires with colleagues who will provide feedback, which will in turn help these teachers adjust to the school culture and teaching practices (Sargent, 2003).

Incentive, induction, and retention programs

Administrators at the school level can control how their new teacher induction programs run for teacher entering their buildings. There are lower levels of teacher turnover in schools where school administrators support their new teachers through induction and mentorship programs (Ingersoll, 2003). Principals support for mentoring and induction programs, especially if they are tied collaborative support, can literally be the difference in whether a beginning

teacher decides stay or quit their job (Brown & Wynn, 2009). Brown and Wynn (2008) state, "School leaders play an important role in shaping building-level factors that can affect new teachers' attitudes toward the profession and their sense of efficacy as educators" (p. 668). New teachers are often given challenging assignments when they start teaching at a new school (Struyven & Vanthournout, 2014; Dawson, 2007). Principals should understand the importance of easing new teachers into their careers and that their role is critical in the new teaching experience for the teacher (Johnson, 2001; Curtis & Wise, 2012). Dawson's (2007) study also found "It has been suggested that induction programs with a decreased workload may better support early career teachers than is currently the case as cited in Commonwealth of Australia, 2007" (p. 31). Roellke and Rice (2008) point out that mentoring and induction programs are imperative because many new teachers are not prepared to teach in challenging schools. There is evidence that induction and mentoring programs have an impact on teacher retention (Allen, 2005). Brown and Wynn (2008) found, "Principals' support for mentoring and induction programs-particularly, those related to collegial support-also appears to play a prominent role in beginning teachers' decisions to quit or remain on the job" (p. 668).

Administrators at the school level could also help the induction process for their new teachers by having some sort of peer mentoring program. New teachers should have an orientation program and be assigned a mentor (Sargent, 2003). Tye and O'Brien (2002) state, "At a time when the nation again faces a severe teacher shortage, the intensifying pressures of the career may be driving many of our best teachers out of the classroom just when we need them most, to anchor the profession and to serve as role models for new teachers" (p. 2). A good functioning mentor system may help new teachers deal with unmet expectations and negative experiences during the induction period (Struyven & Vanthournout, 2014). Kaiser (2011)

conducted a study on beginning teacher attrition and mobility from 2007 until 2010 and found that eight to ten percent of teachers who had mentor teachers were not teaching in years 2008-09 and 2009-10; While 31 to 35 percent of teachers who did not have mentor teachers were not teaching in 2008-09 and 2009-10 years respectively. Thompson and Smith (2005) assert, "There is obviously great need for strong leadership in the implementation of any new teacher preparation program in order to bring about improvements that will continue to build strong teachers for the future" (p. 87). Curtis and Wise (2012) further state, "Principals who felt that their role was to advocate, protect, and mentor new teachers had lower rates of teacher turnover (Brown & Wynn, 2009)" (p. 78). Coladarci and Breton (1997) found that women and older teachers had higher levels of self-efficacy than men and younger teachers. Therefore, it is imperative that school administrators pay special attention to cultivating teams that will support these teachers.

Building organizational commitment

During this section of the literature review, I attempted to find the motivations pertaining to school administration building organizational commitment for new teachers. We started by defining organizational commitment in the context of this study. School principals can provide a great support through their actions in building organizational commitment. Finally, we presented the findings on how building organizational commitment can help to recruit and retain highly qualified teachers and the repercussions that administrators could face if not done efficiently.

School administrators are on the front lines of building organizational commitment for their employees. Organizational commitment is the degree of like-mindedness workers have for their work place (Lewis, 2011). Some workplaces are naturally going to be better to work in than others and an employee will not have the desire to work if they are not satisfied with the

content of their job (Lewis, 2011). In Roellke and Rice's (2008) study, principals were interviewed and they expressed concern that accountability policies drive highly qualified teachers from teaching at schools that do not meet adequate yearly progress. Therefore, it is imperative that school administrators build organizational commitment in these schools as well.

Teachers who have principals visit their classrooms often, talked with them regularly, and remain highly visible, report higher levels of job satisfaction (Curtis & Wise, 2012). Working conditions for some urban school teachers appear to be more important than pay (Jacob, 2007). Friedman (2003) ties teacher self-efficacy to organizational commitment, stating "Individuals with lower levels of generalized self-efficacy showed greater emotional exhaustion, while those with lower levels of professional self-efficacy displayed greater cynicism and lower levels of organizational commitment" (p. 194). However, turnover due to organization discontent can be healthy for the organization in helping that organization continue its mission; However, there is a thin line between the turnovers being healthy versus unhealthy in that the heavy turnover can cause group disintegration (Ingersoll, 2001).

Fall (2010) conducted a study on recommendations for educational leaders on recruiting and retaining highly qualified special education teachers and concluded, "policy makers and educational leaders concerned with fostering teachers' commitment to the profession should recruit teachers to districts and schools where they are needed most, invest considerable resources to provide early career teachers a variety of induction and support programs, develop supportive work environments, foster a collegial school culture, increase principal support, create manageable work assignments, and assure a good match between the teacher and assignment" (p. 81). Teachers will have higher perceived levels of classroom efficacy than organizational efficacy (Friedman, 2003). From an organizational and managerial point of view, all movers and

leavers will lead to a situation where a vacancy will have to be filled by them (Ingersoll, 2003). Therefore, fostering organizational commitment may help in the retention of highly qualified teachers.

Giving employees a voice

Teachers want to be active participants in the decision making process (Curtis & Wise, 2012). Curtis and Wise (2012) interviewed a 26-year-old middle school teacher with four years of experience and she expressed that the standards that were adopted in 2010 were created without any teacher input.

Roellke and Rice (2008) further state:

> They (teachers) also argued that No Child Left Behind limits their autonomy as professionals, and has shifted control and decision making away from teachers in schools to administrators at higher levels of the system. This tendency for greater centralization, they contended, makes the profession less attractive, particularly in lower-performing schools that are under the watch of the state (p. 291).

Teachers will teach and stay in the hardest-to-staff schools if they are given the opportunity to influence key decision-making (Berry, 2004). Teachers in high poverty or minority schools need more autonomy over the curriculum (Greenlee & Brown, 2009). Curtis and Wise (2012) also interviewed administrators and a common finding was, "We need to improve communication within the educational structure and give our teachers a voice in all levels of the educational process" (p. 81). According to Petty et al. (2012), "Many teachers sought administrators who will work with teachers to identify the problems and listen to their suggestions for solving them as noted by one practitioner's recommendation for "collaboration

on both the departmental and administrative level" (p. 75). Principals can play a key role in providing opportunities for teachers to share their expertise (Haar, 2007).

Creating the environment

Research points to working environment as one of the important components in the retention of teachers. These environments should be atmospheres where teachers feel appreciated, supported in their work, and were they can flourish and grow (Darling-Hammond, 2003). School administrators should provide a supportive environment for their new teachers through setting a social environment where teachers would enjoy working (Sargent, 2003). In a study conducted in Sweden, Lindqvist et al. (2014) found "If we take a closer look at the six early leavers, in the eyes of a policy maker searching for casual relations, one can conclude that perhaps two of the six "holes in the bucket" could have been patched if the individuals had encountered a more positive work environment or have had better working conditions" (p. 101 – 102). Leadership behavior and organizations that improve working conditions have very high impact on teacher retention (Greenlee & Brown Jr, 2009).

Greenlee and Brown (2009) further state:

> Whether prepared in traditional or alternative programs and whether in high or low poverty/minority schools, teachers in this study said that in order to stay in difficult schools they needed principals who: maintained a positive school culture; created conditions that enhance the staff's desire and willingness to focus energy on achieving educational excellence; and facilitate the development and implementation of a shared vision that places student and faculty learning at the center (p. 107).

Something as simple as including information about new hires in staff and parent newsletters will help to build this positive and supportive environment (Sargent, 2003).

Nurturing leadership in followers while providing non-biased teacher evaluations

School administrator should continuously practice cultivation leadership with their subordinates while providing objective and subjective performance measures. Teachers will teach and stay in the hardest-to-staff schools if they are given opportunities for teacher leadership (Berry, 2004). Jacob and Lefgren (2005) found, through prior literature, that school administrator's subjective performance evaluations could be biased. Jacob and Lefgren (2005) further state, "Moreover, the evidence that principals may discriminate against male and untenured faculty (and favor certain other teachers) raises some concerns about not only the equity of a principal-based assessment system, but the efficiency as well" (p. 31). Principals should evaluate how they are treating teachers. Discrimination of any kind may make new teachers feel like they are not wanted and can be replaced if they are not liked by administration. Beginners in the teaching profession need to have clear communication from principals and experienced teachers that they are valued newcomers, and not expendable (Johnson, 2001).

Summary

During this literature review the researcher pursued the experiences of teachers and school leaders related to the factors impacting the retention of secondary mathematics teachers. Throughout the review, I defined attrition and illustrated the importance of retaining highly qualified teachers. The literature affirmed that teacher attrition has positive and negative impacts on students, teachers, and school administration. My review also confirmed that mathematics teacher shortages exist, especially in urban schools. Teachers often leave the profession prematurely according to the research conducted. There appeared to be a gap in the literature when it came to linking teacher self-efficacy to teacher retention. Therefore, the literature review continued with an investigation of teacher self-efficacy and how it could potentially

impacted teachers, students, and school administration. Finally, the researcher searched for literature pertaining to leadership roles from the school administrator point of view as well as the business sector point of view. The literature provided evidence that many of the supervisor/school administrator roles where parallel in the areas pertaining, but not limited to, providing a safe environment for subordinates, cultivating collaboration between leaders and followers, building organizational commitment, and providing support systems for their followers.

CHAPTER 3

RESEARCH AND DESIGN METHODOLOGY

Methodology

The purpose of Chapter 3 was to illustrate the research design implemented to encapsulate leadership factors related to the retention of secondary mathematics teachers. A gap existed in the research that explored how teacher self-efficacy related to the retention of mathematics teachers. Therefore, through my research study, I addressed this existing gap in the literature. Within this chapter, I discussed my research designed based on research best practices learned while in my program and with the guidance of my dissertation chair and committee. My research design consisted of the problem, purpose of the study, research questions, sample and population, instrument used, research design, data collection, my role as researcher, and description of my analysis procedures.

Research Questions

The literature review provided information on what teacher attrition is as defined for the current study. Teacher attrition and its impact on students, shortages and trends, reasons why teacher either stay in the profession or leave the profession, and challenges for urban schools were discussed in the literature review. The literature review also presented evidence pertaining to school leadership and their role in teacher attrition. School leadership and its impact on supervisor support, cultivating environment for teacher self-efficacy, incentive and retention programs, building organizational commitment, giving employees and voice, creating the environment, and nurturing leadership in followers was examined through the literature review. Leadership from the business aspect was also discussed to show how leadership in schools and the corporate world mirror one another. Finally, the literature review expounded on school

administration cultivating teacher self-efficacy. Self-efficacy was defined and discussed in the literature review as it pertained to self-efficacy in adverse situations, links to student achievement, building school culture, and teacher development. With these concepts in mind, I sought to understand the perceptions of current mathematics teachers and school administrators on teacher attrition. Therefore, the following research questions were designed for the current study:

1. What are the experiences of current mathematics teachers and school administrators related to the programs and practices that help new mathematics teachers ease into the profession?
2. What are the experiences of current administrators related to the retention techniques that ensure the highly qualified teachers remain in these schools?
3. What are the experiences of current mathematics teachers and school administrators related to how teacher self-efficacy relates to teacher resiliency and ultimately teacher retention?

Research Design

Employing professional practice qualitative research, I aimed to develop an understanding of the phenomenon under investigation in the setting where I practiced to address a problem and issue of professional practice (Willis, 2008). According to Merriam (2009), "all qualitative research is interested in how meaning is constructed, how people make sense of their lives and their worlds" (p. 24). In agreement with Merriam (2009), I was on a mission to uncover and interpret these meanings. Qualitative projects like this one have an emergent quality, but it is important to have a solid plan while keeping in mind that unforeseen findings may occur (Hatch, 2002; Saldaña, 2011). I conducted critical research through my investigation

on leadership factors related to the retention of secondary mathematics teachers. Merriam (2009) states, "critical educational research queries the context where learning takes place, including the larger system of society, the culture and institutions that shape educational practice, and the structural and historical conditions framing practice" (p. 35).

Researcher Bias

One of the most important ways to ensure validity, reliability, and generalizability is to conduct my investigation in an ethical manner (Merriam, 2009). I realized that I was the primary instrument of this endeavor and that I worked in a rigorously curious and ethical manner to achieve my project's goals (Saldaña, 2011). As I conducted my research, I fully understood that I am a researcher as well as a current mathematics teacher in a secondary school setting. Saldaña (2011) states, "Your autobiography and identity life experiences, knowledge, training, emotions, values, attitudes, beliefs, gender, ethnicity, and so forth influence and affect how you navigate through the enterprise and approach other important elements, such as the relationship between you and your participants and the analysis of your data" (p. 23). I have had seven and a half years of experience in a school much like the one in my current study. However, in the current school year, I have changed positions and work currently for a school that does not fall into the category of the ones that I used as my interview sites. I am an individual who is motivated by personal and scholarly interest and I conducted this research study to investigate a facet of social life; therefore, who I am and who I am becoming is a determination of what and how I am researching (Saldaña, 2011). This knowledge of self, along with my dissertation committee, helped me to continue to refrain from allowing my own personal judgements to influence any findings or undertakings in this current study.

Participants

I used purposeful sampling when selecting informants. Participants are the ultimate gatekeepers to the access of the information desired (Hatch, 2002). I wanted to investigate stakeholder's thoughts and expertise about teacher retention. Merriam (2009) states, "Purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (p. 77). In my selection of informants, I utilized convenience sampling. Merriam (2009) explains convenience sampling, "is just what is implied by the term – you select a sample based on time, money, location, availability of sites or respondents, and so on" (p. 79). The informants selected where of convenience for me because they were all located in the schools close to where I work. Merriam (2009) mentions that there is no set number of participants for a qualitative study. Therefore, I interviewed 12 assistant principals or principals who worked closely with the math department at the schools. These principals were at the current school for at least their first year or more. The participants represented a homogeneous sample of participants who share common characteristics; this strategy helped me study this small subgroup in depth (Hatch, 2002). The interviewing of school administrators was be conducted at urban school districts in the Hampton Roads area.

When choosing interview sites, I used for similar reasons similar to those I used when I chose my informants. I used stratified purposeful sampling for the purpose of this study. Hatch (2002) states, "Stratified purposeful samples are those that include individuals selected to represent particular subgroups of interest (e.g., interviews of elementary, middle, and high school teachers on their homework practices)" (p. 98). I conducted my interviews at urban high and middle school districts close to where I currently work. These observation sites were convenient,

like Merriam (2009) mentioned in her book. I chose these sites because the schools fit the criterion for my study. These schools had either lost accreditation or wee in danger of losing accreditation based partly on the mathematics scores. Some of these schools had newer teachers there based on research in my literature review. I conducted the study at school districts that had similar demographics as the ones used in studies throughout my literature review. Merriam (2009) further states, "The criteria you establish for purposeful sampling directly reflect the purpose of the study and guide in the identification of information-rich cases" (p. 77-78).

Study participants. Following are demographic descriptions of the interviewed (Names are pseudonyms):

1. Female, Caucasian (Laura). Experience: secondary level administrator for three years with three years at current school.
2. Male, Caucasian (Paul). Experience: secondary level administrator for five years with two years at current school.
3. Male, Caucasian (Jim). Experience: secondary level administrator for 13 years with four years at current school.
4. Female, African American (Kim). Experience: secondary level administrator for four years with three years at current school.
5. Male, African American (James). Experience: secondary level administrator for 14 years with six years at current school.
6. Female, African American (Tina). Experience: secondary level administrator for ten years with one year at current school.
7. Male, Caucasian (Tim). Experience: secondary level administrator for 22 years with three years at current school.

8. Male, African American (Greg). Experience: secondary level administrator for 21 years with eight years at current school.
9. Female, Caucasian (Michelle). Experience: secondary level administrator for five years with one year at current school.
10. Female, African American (Mary). Experience: secondary level administrator for eight years with two years at current school.
11. Male, African American (Charles). Experience: secondary level administrator for two years with two years at current school.
12. Male, Caucasian (Richard). Experience: secondary level administrator for five years with five years at current school.

Procedures

I initiated the process with an application to the appropriate review board requesting permission to conduct research using human subjects. Upon receiving approval, I requested permission from the chosen school division and submitted the study concept, which included a study invitation letter, a letter of the study purpose, the interview protocol, and the interview questions. After receiving permission from the districts, I sent an invitation letter via email to the secondary administrators chosen for the study. An electronic email provided potential participants with the purpose of the study and a letter of invitation with the interview protocols. For the respondents that agreed to participate, follow up phone calls were made to thank them for their participation and to establish an interview date, time, and place.

Data Collection Methods

Data collection methods included interviews, transcribed data, and document reviews. This section illustrates the research protocols used to conduct the study.

Interviews

Administrator interviews helped me to get a small snap shot of their actual experiences and how they pertain to teacher retention (Hatch, 2002; Merriam, 2009; Saldaña, 2011). Merriam (2009) states, "Interviewing is necessary when we cannot observe behavior, feelings, or how people interpret the world around them" (p. 88). These interviews gave a little insight on how the school administrators experienced or witnessed teacher retention. Based on the proper way to conduct qualitative research and interviewing, I employed open-ended and less structured interview techniques (Hatch, 2002; Merriam, 2009; Rubin & Rubin, 2012). Interviewees would probably feel more comfortable if their names were to remain anonymous; they probably gave honest feedback because their name were to remain unknown.

Both Merriam (2009), and Rubin and Rubin (2012), talk about the importance of using proper qualitative questions in a study. Rubin and Rubin (2012) illustrated the importance of using language the interviewees understand, allowing interviewees to answer in their own way, and focusing on the experiences and knowledge of the interviewees. See question protocol in appendix. These questions were subject to change due to new findings. While conducting the interviews, improvised conversations may yield unexpected areas and insights for further inquiry (Saldaña, 2011). The question asked do not need to be fixed and new questions could be made up on the spot following new insights (Rubin & Rubin, 2012). The informant conversations and transcribed interviews are all important findings in the study investigation (Willis, 2008).

Documents

I kept a research journal; that served as a diary of my fieldwork and helped to keep track of the personal side of my research experiences (Hatch, 2002). This research journal is where I jotted down key words, phrases spoken by the interviewees, personal notes, and memos to self

(Saldaña, 2011). The researcher kept analytic memos. Saldaña (2011) states, "An analytic memo is a 'think piece' of reflexive freewriting, a narrative that sets in words your interpretations of the data. Coding and categorizing are heuristics to detect some of the possible patterns at work within the corpus, and an analytic memo further articulates your deductive, inductive, and abductive thinking processes on what things may mean" (p. 98). Along with keeping the research journal, I continuously revisited the question protocol to ensure that I stayed the course with the study questions.

Data Analysis

Continuous analysis of collected data took place during the interviewing process and at the conclusion of all interviews. Data analysis is a systematic search for meaning and a way to process the qualitative data collected (Hatch, 2002). I collected data from the interviews using a recording device. Saldaña (2011) states, "There are no standardized methods of data analysis for qualitative researchers, but there are several recommended ways for constructing meaning manually and with the assistance of technology" (p. 26). Therefore, I transcribed the recordings using voice recognition software. It is important to conduct this analysis as the study takes shape, rather wait until all interviews have taken place (Merriam, 2009). I conducted a coding process where I assigned a designation of themes to ideas that come from the interviews (Merriam, 2009; Rubin & Rubin, 2012). Hatch (2002) offers steps that I followed in the interpretive analysis of my findings:

1. Read the data for a sense of the whole -researchers must start by being immersed in the data to the extent that whatever impressions are formed throughout the analytic process are considered within the context of the overall data set (p. 181).

2. Review impressions previously recorded in research journals and/or bracketed in protocols and record these in memos -if you are unsure if certain impressions will be useful or not, it is better to include them in the set you intend to study later. It is easier to drop them if they do not pan out than to try to retrieve them if you see later on that they will be important to the interpretive analysis (p. 182).
3. Read the data, identify impressions, and record impressions in memos -the procedures described here are intended to lead researchers through a process of interpretation solidly rooted in data (p. 185).
4. Study memos for salient interpretations -the outcome of this step will be an organized collection of memos that address the concerns of the research project at hand. (p. 186).
5. Reread data, coding places where interpretations are supported or challenged -if you have organized your memos in some other form, you will need to create a coding system that will allow you to easily identify all the places in the data related to the salient memos identified (p.186).
6. Write a draft summary -the idea behind writing the summary is to force you put the interpretations in your memos into a "story" that others can understand. The act of writing for an audience places constraints on how ideas are put together and communicated. Making yourself write the story of your interpretations will provide a test for the logical consistency of your thinking and expose any gaps in your argument that might exist (p. 187).
7. Review interpretations with participants -not all studies that use interpretive data analysis as described here will be designed and implemented based on constructivist assumptions. That does not mean that they will never ask their participants to review their

interpretations. For example, post positivist researchers may want participants to review interpretations as a way to argue for the "validity" of their findings. The logic of the research will dictate whether member checking in relation to reviewing interpretations is essential or not (p. 188).

8. Write a revised summary and identify excerpts that support interpretations -the idea is not to find the quote or other piece of evidence that will go with each segment of your case but to identify a collection of possible quotes that will help convince your readers that your interpretations are well founded (p. 189).

Transcribing Data

I started the transcribing process by organizing and preparing the data collected from the interviews and conversations for analysis. I used high quality recording equipment to make a clear record of the interviews (Hatch, 2002). Then I took field notes to capture information that may not come through in the interviews clearly (Hatch, 2002; Saldaña, 2011). I jotted down important passages, insights that I made, the connection to the larger issue, and recommendations for follow up questions (Saldaña, 2011). I transcribed the interviews myself, right away, in order to become intimately familiar with the words exchanged between the interviewee and myself (Hatch, 2002; Saldaña, 2011). Then, I completed transcription electronically with the voice recognition software.

Coding is an empirical method of discovery to the meaning of individual sections of data, where data collected is patterned, classified, and reorganized into emergent categories for further analysis (Saldaña, 2011). Possible assertions and emerging themes were ascertained through the transcribing and coding process. Saldaña (2011) defines assertions as, "declarative statements of summative synthesis, supported by confirming evidence from the data, and revised when

disconfirming evidence or discrepant cases require modification of the assertions" (p. 119). I ensured that my biases was not prevalent in my study by working closely with my dissertation chair and committee after doing all the processes included in my data analysis plan.

Limitations

This current study sought to find leadership factors related to the retention of secondary mathematics teachers. Pertaining to the convenience selection of participants, Merriam (2009) mentions, "Although some dimension of convenience almost figures into sample selection, selection made on this alone is not very credible and is likely to produce "information-poor" rather than information rich cases" (p. 79). One limitation was that I conducted interviews rather than site observations. Due to the period for the interviews, I did not conduct site observations. However, Merriam (2009) does mention that due to the settings of interviews versus the settings of observation, that the results may appear different. Another possible limitation that may have occurred is if interviewees were reluctant to share what they are really thinking for various reasons (Hatch, 2002). I attempted to combat that limitation through giving full disclosure of my research intentions and a clear message that their participation is voluntary and that I would maintain confidentiality (Hatch, 2002; Merriam, 2009; Saldaña, 2011).

Trustworthiness

According to Saldaña (2011), "credibility and trustworthiness are matters of researcher honesty and integrity" (p. 136). I provided trustworthiness and credibility through being transparent in the research processes that I am using (Saldaña, 2011). For the purpose of my study, interviewing was the only data collection method used. Therefore, I employed a modified version of triangulation or the use of at least three different viewpoints through member checks (Merriam, 2009; Saldaña, 2011). During the transcribing process, I reached out to my

interviewees and ensured that my interpretation of their thoughts were indeed their thoughts. I also shared my findings with my chair and committee to ensure that I was making the correct assumptions by being forthright with all findings in my transcripts and field notes. Therefore, utilizing the peer review strategy (Merriam, 2009).

Chapter 4

Findings

During this research study, I was seeking to find the leadership factors related to the retention of secondary mathematics teachers. Within this chapter, I will discuss my findings that followed an intense coding method, analyzation, and synthesis of themes relevant to the interview data collected. Research questions will be revisited along with a visual representation of the themes that came from the analysis and synthesis of the interview data. An in-depth discussion of my findings will include; (a) current practicing principal's/assistant principal's insights and experiences pertaining to culture and climate of their schools, their philosophy and approach for supporting all new teachers and new mathematics teachers; (b) major obstacles that these new teachers face during their first years; (c) characteristics of highly qualified teachers, retention of mathematics teachers and its effect on a school or department; (d) and factors that influence mathematics teachers to stay or leave the teaching profession. Table 2 is a visual representation of the themes that came from my findings.

My study was seeking to find leadership factors related to the retention of secondary mathematics teachers. The following questions served as a guide to this qualitative study:

1. What are the experiences of current school administrators related to the programs and practices that help new mathematics teachers ease into the profession?
2. What are the experiences of current administrators related to the retention techniques that ensure the highly qualified teachers remain in these schools?
3. What are the experiences of current school administrators related to how teacher self-efficacy relates to teacher resiliency and ultimately teacher retention?

Table 2: Administrative *Interview Themes*

Culture and Climate

- Student Centered
- Family Oriented
- Passionate
- Collaborative
- Warm and Inviting
- Supportive
- Teacher Centered Decision Making

Philosophy and Approach for Supporting New Teachers

- Provide Mentors and Coaches
- Pre-Service
- One-on-One Meetings
- Team Collaboraton
- Targeted Support Via Walkthroughs
- Provide Feedback

Support for Mathematics Teachers

- Professional Learning Community
- Collaboration
- Math Coach
- Math Specialist
- Pair With Veteran Teachers
- Principal Support

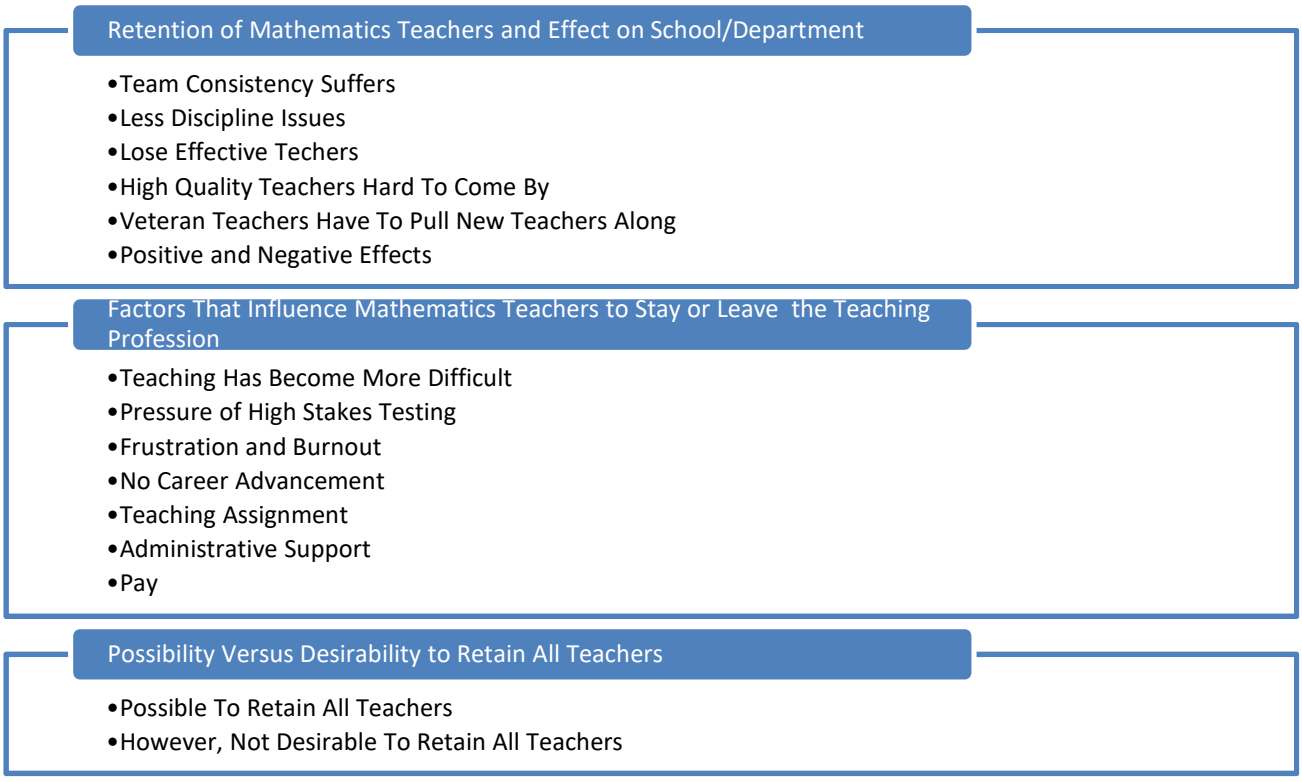
Major Obstacles During First Years

- Understanding of Stuggling Students
- Worklaod
- Classroom Management

Characteristics of a Highly Qualified Teacher

- Content Knowlege
- Engaging
- Compassionate and Caring
- Effective Lessson Plans
- Classrrom Management Specialist
- Meet Their Students Where They Are
- Loves the Profession and Children

Table 2 Continued: Administrative *Interview Themes*



Discussion

Culture and Climate

According to my research, relationship building is an important aspect of building a strong culture (Sargent, 2003). Consequently, one of my interview questions was based on investigating the culture and climate of the school for each administrator. There was an overwhelming response that the climate was positive in these schools. Even though three of the schools were improving on climate, they were overall positive in nature. Each school also had a collaborative culture where stakeholders worked together for the good of the student population.

Great insights where obtained when the question about each school's culture and climate was asked. One main theme that was apparent were that all of the school's culture was student centered in nature. The participants made statements like, "teachers here put a lot of work and

effort in helping their students" and "teachers make the right decisions in the interest of kids". Other comments included "teachers really care and give to their students" and teachers are passionate about student learning". Laura stated:

> I have to say we have people at our school that will go to the end of the Earth to help their students. We have some very talented creative students. We have students who faced very challenging lives. So we have to work on norms and work on basics with them. I would say that we have very diverse needs and as a result, we put in a lot of effort and a lot of work.

Kevin explained that their culture and climate more from the student point of view during the interview. In this particular school, there was a climate of respectful students. They had trust for the adults in the building. Kevin shared:

> From a student standpoint, I'll explain it as extremely diverse upper middle class, to students in poverty. Typically, the culture is students work hard and appreciate the things teachers are trying to do for them and trust that the adults are making the right decisions for them. They are respectful, generally speaking. We have a hard-working staff. Staff that shows up every day and do the best job they can in the best interest of kids.

Sheila explained their school culture and climate from student centered point of view as well. The climate was one where students had a high level of respect for the adults in the building and were very respectful. Sheila stated:

> We have a mutual respect where the teachers are very passionate about student learning. The students are very respectful. They are minor infractions, but for the most part, but I think there is a very high respect and the kids have a lot of school spirit here. I notice that many of the teachers have been teaching for at least 20 years. When they come here

> they don't leave, they really like the building. I think it's a pleasant place to work and everyone seems to be in agreement that educating kids at first and they're all willing to do whatever it takes educate the kids.

The next two participants also mirrored the participant's thoughts reported above as it pertained to climate and culture. However, they reported their culture and climate from a teacher point of view with a student centered building objective. Antonio shared:

> We care deeply about our students, and we will go to great lengths to help our students and teachers be successful.

James further elaborated:

> I think teachers really care and give a lot back to the students, besides just been teachers, they do a lot in terms of caring for the students.

Three administrators expressed that their school climates and cultures were improving. The schools where in the process of getting all stake holders moving in the same direction. One administrator expressed that they learned and grow from making mistakes. They also articulated that climate changes depended on the time of the year. According to Kim "In the beginning of the year some teachers are anxious about teaching assignments. Then you have your long stretch between the end of Christmas break, until the beginning of Spring break". Kim also shared:

> We have a culture here where we focus on learning and growing from our mistakes. That's been developed over the last four years really. I've learned a lot from errors and learn your brain is a muscle and we need to use it to grow. Climate changes depending on what time of year.

Some administrators were facing challenges at their schools due to having a new population of teachers. At these schools, cultures appeared to be emerging due to many new staff members being introduced to a new school. Charles stated:

> It's an improving culture and climate. At my middle school, the population shifted about five or six years ago. I have veteran teachers who are learning a new population. I have about half of my staff who are new to the building. So they are kind of like vibing together and becoming a family.

Richard further stated:

> I would describe it as good and improving. We have come through a lot; as you know we lost our accreditation, full accreditation by the department of Ed because of the struggling math SOL scores and other issues around the quality of work that we were producing. Then as a leader, what do you do about that? You certainly pursue a path of professional development and after responsible effective path to follow. It's not always the path that everyone wants to walk, however. So in the process of trying to strengthen your school, sometimes it does strain the positive side of your culture. But we've worked through so much of that. Can feel now I say it is quite united and moving in the same direction. The overwhelming majority of people are on board with that. I think they'd say that they enjoy coming to work every day.

One theme that was very apparent according to majority of the participants is that their school cultures where family oriented. In these cultures, teachers worked in supportive and collaborative groups. These populations were diverse where teachers were open, nurturing, giving, and caring. Antonio, James, and Greg highlighted these findings with the following shared experiences. Antonio shared:

> I will tell you that we are very family-orientated School. We care deeply about one another, we care deeply about our students, and we will go to great lengths to help our students and teachers be successful.

James also shared:

> The culture is, I would say family oriented. In other words, the staff works well together in terms of support provided support instructional wise.

Greg further shared:

> I think it (our culture) was a family. I think we really cared about the kids when we was there. I think it was a nurturing culture.

According to my findings, each principal shared their unique experiences which actually had some similarities. Administrators shared that their cultures were highly student centered. Most administrators described their school as family oriented. In these schools, there were members of supportive and collaborative team. The people within these teams were passionate about their students and cared for each other. Teachers within these teams were open, giving, nurturing, and caring toward each other and their students.

Philosophy and Approach for Supporting New Teachers

According to recent research, lack of administrative support was one of the main reasons why teachers left the profession (Curtis, 2012; Curtis & Wise, 2012; Petty et al., 2012; Struyven & Vanthournout, 2014). Therefore, I wanted to dive into the experiences of practicing administrators as it pertained to their philosophy and approach for supporting new teachers at their schools. Based on the participant's experiences, they provided support through a number of different means. These means included providing mentors and coaches, pre-service training,

one-on-one meetings, team collaboration, targeted support via walkthroughs, and providing timely feedback.

Three of the participants spoke to the support that they offered through pre-service programs. They spoke to the importance of providing that support before the new teacher starts; whether they are starting immediately after completing a college program, are a career switcher, or coming from another school district. Winslow stated:

> I get my new teachers in before anyone else and I give them that back to school information and what they'll be doing. They get a jump-start so they don't have to try to figure out what's going on.

One participant went into detail about the pre-service and in-service support that they provide their new teachers prior to and during pre-service. Laura stated:

> We provide them with a lot of support before they even start. We meet with them every single day for over a week before pre-service begins and kind of address different things; one, building a relationship and a rapport among them as a team of new teachers or new staff. We have them do this with seasoned people. So we bring in seasoned teachers who share tricks of the trade so that they know some of the staff before we even have pre-service. So when pre-service happens, we make sure that we are addressing some of the fundamental day-to-day operations, things that they really have to know without trying to overwhelm them with the "everything".

The following administrator stated many programs that teachers learn about prior to in-service training at the beginning of the school year. Richard shared:

> These are some of the initial onboarding entry level orientation to our system; an online leaning plan, Talent Ed, the whole goal setting, reflection, data analysis processes, and

> much more stuff that is more housekeeping stuff like orientation to benefits and stuff like that.

According to these participants, their supports start with the new teachers at the pre-service level, during pre-service, and ongoing through in-service opportunities.

Three administrators shared their experience in providing targeted support through walkthroughs. Followed timely feedback given after these walkthroughs. These are some of the supports provided throughout the year after pre-service training was given. Laura stated:

> We do informal formative walkthroughs, where we go in for short periods of time and provide targeted support, then we have a conversation about each visit that we have with them.

This particular administrator expressed their philosophy and approach more from the instructional support point of view. Mary stated:

> Definitely being supportive and giving them feedback when it comes to instruction as well as just being supportive.

Richard shared their experience through instructional support and meaningful feedback by sharing:

> We just keep an eye on them and we try to get in the classroom as often as we can. We try to give them meaningful feedback within our own instructional framework and the expectations we have for teachers and how they design their lessons and implement them.

Walkthroughs and timely/meaningful feedback was an important support that was practiced by the participants in their schools.

Providing a mentor and/or coach appeared to be a huge support that the administrators provided for their new teachers. More than half the participants expressed mentoring and

coaching as their approach for supporting new teachers at their schools. Laura shared the following:

> Our philosophy with them is to partner them with strong mentors who cannot only help with content, but also with realistic and practical approach to teaching. Sometimes these teachers are mentored by teachers outside of their subject matter. They are mentored by people who have good practices and relationship with students that can really help them with decisions that are challenging within that first year.

This participant partners their new teachers up with seasoned teachers to help them learn the tricks of the trade during that first year. Kevin stated:

> School division provides a mentor within the building; paid mentor, which is there to check up on the students.

Another administrator expressed that mentoring and coaching was offered based on the content area. Antonio shared:

> Our teachers all have a mentor, who teach the same content and hopefully the same grade level if that's possible. We also, depending on the content area, have them work with a coach there are two coaches in math and English. So we have them work with our coaches, so that we can identify where they need extra support or we can put those supports in.

Other participants shared the importance of mentoring and coaching in their schools. James stated:

> I think it's important to mentor new teachers because they need to glean off the experiences, that I have in the wisdom and the knowledge for them to be successful at first year teachers.

Sheila further stated:

> For new teachers would like that sign them a mentor within the department so that they can have someone who is teaching at least one of the same subject areas that they're teaching so that they can have someone to sort of model or even glean or get ideas from. As far as strategy they can use in the classroom especially for first-year teachers.

Richard also stated:

> The new teacher also work with a small group of mentor teachers who are then assigned specifically to the first-year teachers; they meet quarterly, but they are always available.

Mary mentioned that they created a teacher lead position to help further support new teachers in their building. Mary stated:

> I also signed them a mentor here in the building and that may or may not necessarily be in there same content area; just to have a person the building they can go to for support. We have a new teacher lead that meets with new teachers monthly on various topics ranging from instructional strategies, how to roll your grade book over for the second semester, or it can be just how to make it through the month of March because it is one of the longest month of the school year (Mary).

Mentoring and coaching is a huge support provided for new teachers according to the experiences of the administrators interviewed for the current study.

Along with pre-service training, walkthroughs, feedback, mentoring and coaching, administrators talked about making the time to work with the new teachers themselves. Meeting with the new teachers themselves was another layer of support that six of the participants shared as a philosophy and approach for supporting new teacher at their schools. According to more than half the participants, meeting with teachers was one of the more emphasized supports that

they offered to the new teachers. A couple of administrators went into detail about how they provided this support. Laura shared:

> We meet with them on a monthly basis. Part of that meeting is just a temperature check; How are things going? What kind of things are you still struggling with? What kind of things do you need help with? We have this meeting with just them so they can feel free to ask and not be embarrassed. The other part of it is we do a "problem of practice protocol", where they will be working in Triads, talking about a challenge that they have experienced, whether it's related to, student management, planning, timing issues, parents, or eating/drinking. This is so they can get feedback from people within their cohort or network. We build that network first and then provide them support ongoing. In terms of instruction, we make the first set of classroom visits very low risk. We just have conversations with very little formal documentation. We put things on a matrix and send it to them so they will have things in writing, it not in a database. Then we do informal formative walkthroughs, where we go in for short periods of time and provide targeted support, then we have a conversation about each visit that we have with them.

Antonio further shared:

> At the beginning of the year, one of the first things we do is find out through observation, what are the areas where growth can occur and ask them to identify the area that they want to focus on (which one of two) so that they don't feel so overwhelmed trying to correct everything all at once. You're not going to become perfect teacher in one year or ever, but we tried to give them an opportunity to identify those areas where they need support; what are the ones that interest them the most first, unless there's something very

> obvious like discipline and we have to focus on those first. If those things are in place, we can really pinpoint specific academic instructional support.

The following administrators met with their new teachers in person or emailed their teachers to provide support. Kevin shared:

> We have gatherings periodically, if not quarterly with our new teachers, from the administrative point of view to gauge how they're doing. As the principal, I'm in charge up there their observations. In charge of their evaluations, so I meet with them probably individually four times per semester and get a gauge of how they're doing.

James also shared:

> It's really important to have important conversations and it's important to model the best you can for the teachers and the build relationships with them.

Sheila further shared:

> I like to meet with first-year teachers as often as possible, just to get a feel for how they're feeling, how comfortable they're feeling and what they want me to look for when I come in the classroom. What I can do, to kind of reach them.

Winslow additionally shared:

> Mostly I email them and I send an individual email to them to check in on down at ask how they're doing. I tell them they don't have to respond to this, but I'm just checking to see if you need anything and let me know. I do all of the evaluations in all their observation.

Charles finally shared:

> Basically, what I do is we meet with them. I meet with them once a month to talk about the basics period the division does a lot of the classroom management, curriculum, and all that type of stuff.

Current practicing administrators have many ways that they provide support for their new teachers. Most of these supports are in place for new teachers, or for teachers transferring from different school districts.

Support for Mathematics teachers

Administrators were further probed into their specific supports for new mathematics teachers. They were asked about programs that their schools offered to promote the retention of the mathematics teachers. Then they were asked about their school and division supports for the new math teachers. Finally, they were asked about how they helped teachers develop their self-efficacy. Most participants shared that they supported new mathematics teachers through participation with collaborative teams, partnering them with math specialist/coaches, and teaming them with veteran math teachers. These answers were very similarly, to the responses given regarding supports for all new teachers.

However, when asked were there any specific programs that their school offered to promote the retention of highly qualified math teachers, the majority of the participant answered no. Laura answered:

> I don't know that we do anything that is unique for math teachers. We are in the same challenging boat that a lot of school divisions are in, in terms of the shortages. I've had quite a bit of turnover in my math department. Last year alone, I had four new math teachers and I only had one that returned for a second year.

Kevin answered likewise:

> Not directly in this school. I think for a retention standpoint I don't look at programs, I just look at how that we develop a culture and a scheduled with support units that make it a great place that people would want to work.

Antonio answered similarly:

> We don't really have a program. But I don't lose teachers unless they move away. I think that's because they have a voice and that's what happens here.

Sheila also answered:

> Not specifically by name. We do a combination of retaining and keeping highly qualified teachers, by providing them support.

Nearly all participants stated that there was not a specific program aimed at the retention of highly qualified mathematics teachers. However, the participants added that the supports that were put in place for all teachers should be efficient in retaining math teachers as well.

Based on administrator experiences, school and division supports varied from district to district. From the district level, administrators shared that signing bonuses and financial incentive were offered to some new teachers. The following administrators are from two different school districts. Laura shared the following information about her school district:

> Our school division provides signing bonuses and financial incentive. Due to the math shortage, teachers are given financial incentives and rewards to take on more students, but that is frankly temporary and based on if they can handle more kids.

Richard shared the following information about his school district:

> They give us a head start in recruiting and making recommendations for math teachers and they offer a $3,500 stipend for teachers who agree to come to support level 3 or level

> 4 schools. I think the division is recognizing that we're competing with other schools within our district for high-quality math teachers and they're trying to short of tip the scales and bring the schedule a bit more balance.

Similar to the supports for all new teachers, mathematics teachers were provided with coaches, mentors, instructional supervisors, and common planning time to work with colleagues. Some of these supports were from the district level, whereas the others were obtained at the school level. The administrators shared some other division level supports. Laura shared:

> We also have a math coach, which is the only subject that we have a coach for. She works with first and second year math teachers and algebra 1. Since that's the place where we need the most support. This is a school and district-level support.

Antonio further shared:

> As a division, I think part of that is what the teachers take advantage of. I think there are opportunities for our new teachers to take. Whether they choose to do some of that or not, it's up to them.

Mary additionally shared:

> I think one of the things that our district has started to do a little bit better, is building support from the division level as far as the instructional supervisor and instructional specialist.

Charles shared the following:

> The division meets pretty much once a month they have opportunities for professional development. They help prepare for benchmark test and Hands-On activities. The division is very active and very supportive.

Sheila shared school level supports in the following way:

> Not for math teachers, but for all teachers. They have the mentoring program. They have specialized training. They have training for all the teachers, but not specifically targeting math teachers. Programs they have in place are for all new teachers.

Winslow also shared their school level supports:

> I know from my aspect the key is the professional learning communities. So when you bring in math teachers and people who are necessarily not new math teachers, who were considered novice and are emerging, we partner them up with a strong team.

Charles shared the following about his school level supports:

> Then at the school level, we have common planning for the different grade levels.

According to the interview data, most support for mathematics teachers appeared to be given at the school level rather than at the division level unless teachers took those opportunities.

Teacher self-efficacy may have profound links to burnout and job satisfaction (Dimopoulou, 2014; Pas et al., 2012; Roellke & Rice, 2008; Schwarzer & Hallum, 2008; Viel-Ruma et al., 2010). Participants communicated how their school helped to develop the new teacher's self-efficacy. Their answers ranged from classroom observations/learning walks, mentoring/coaching/collaboration, to conversations/feedback. In reference to classroom observations/learning walks, Laura shared:

> That is something that we do for all teachers. I don't know if you are talking about if we look at math teachers singled out. Our division is focusing on a new protocol. We are using leverage leadership. It's a concept that smaller classroom visits that are targeted and encourage a lot of reflection and the post conversation so that teachers can see immediate results of their efforts. So instead of a post observation, just being told you

> did great and these are the things that you need to work on. Instead, a lot of the conversation is based on what went well. How did you feel about this particular and end up helping teachers focus on targeted techniques. (She gave an example about questioning techniques that the teacher could use for students that didn't appear engaged). When we go back then you can provide specific evidence to the teacher to affirm the effectiveness of their efforts. Justice practices are continuing affirmation to a specific targeted area is a lot more rewarding to any professional. When we're able to provide that evidence of their achievements as well as being in tuned with their needs, it's very gratifying for them. We are already seeing that confidence-boosting effect. Therefore, teachers feel like I can positively impact student learning.

Sheila additionally shared:

> We also have collaborative learning walks, where we divide the staff into small groups; where we go on learning walks throughout the building, but not just within the department, in other content areas. In those classes where they can see…we have IB level classes here which a little bit different from "gen ed" classes. They can see some unique strategies and maybe even thing about way they can tailor those strategies to implement in their own classes. We do a lot of peer observation so they can have an opportunity to see what it is that works and how it can be implemented in their class.

Included with classroom observations/learning walks, administrator said that they provided support spaces for mentoring, coaching, and collaboration. Kevin stated:

> I think through collaboration and working with teachers it develops a level of self-efficacy because people feel like they're not on the island and any mistake they make they're going to be hammered on it.

Antonio further stated:

> I keep going back to this because I think it works so well; our coaching model, because they get to watch a master teacher work. Because they can go teach with that teacher and gradually become comfortable with the process and that coach is working with, and then doing it themselves with feedback. We don't push them fast through that process. We want them to build the confidence and being self-assured. We encourage them to observe each other and get ideas from one another.

Mary also stated:

> So I think just as far as support and being there to have one person in the building that they know is a safe zone or somewhere they can go and talk to when they need help.

Administrators also shared their experiences of those important conversations and feedback after the walkthroughs. James expressed:

> I would say just having those courageous conversations and making sure that we give them feedback.

Winslow also expressed:

> For example when I think of self-efficacy, I'm thinking what does the, you as individual need and where you want to peak. When I do the refinement reinforcements interviews and observation, as well as any type of evaluation, whether it's interim or summative; we develop the refinements together. I'm the general, I don't know geometry, but I know instructional strategies, management, and student engagement. So what I'm looking for is what do you as a mathematician that you feel that you need work in when it comes to the actual math concepts. It's got to be self-driven and in conversation with me.

Michelle further stated:

> Support and I'm a huge believer that a big part of my job is to being a cheerleader when you see people doing good things to make sure that you recognize that. You can't afford the things, where you see people doing things where they need improvement; in order for them to reach that self-efficacy, you have to be able to have that conversation with them on where could we grow better together and that very much is the approach. The watch thing that I started doing this year and I learned it add an equity conference this summer, just space, nobody likes to come to the assistant principal's office or the principal's office; This is part of our culture having grown up as students in the American school system. But having those conversations with teachers after we debrief after a big observation, I try really hard to go to their classroom and sit with them in student desk and just because I want teachers recognized that we are team and we're in this together and we're on the same team. What can we do to make sure that students graduate and to make sure all students are taking advanced coursework.

According to the interview information gathered, all administrators said that their schools had supports in place to help teachers develop their self-efficacy. The majority of the participants shared that they encouraged teachers to work on areas noted for improvement independently unless there was a greater need for direct instruction in the teacher did not see a need for improvement through self-reflection.

Major Obstacles During the First Years

According to research, teachers leave the field due to inadequate induction and lack of stability during the first years (Petty et al., 2012; Struyven & Vanthournout, 2014). As a result of the research, I asked the participating administrators to share their experiences as it pertained

to major obstacles that teachers faced during their first years. During this round of questioning, administrators shared their understandings of what supports new teachers request, whether these requests match their actual needs, and how they felt about pre-service programs/preparation programs preparing these new teachers for the field. According to the participants, some of the obstacles that teachers faced in those first years were centered on their instructional practices, classroom management/lesson planning, and managing their time outside of the classroom. Laura shared that first year teachers struggle with instructional practices:

> Speaking to the school that I'm in right now, an appreciation and understanding of struggling students with diverse needs. Some teachers come into it thinking that I'm going to teach algebra 1. But you are not only teaching Algebra 1, you are also teaching basic math skills.

Antonio further shared:

> The volume of what they're expected to teach. Like most curriculum in this country, it's a mile wide and an inch deep. So for them to learn how to get through all that content in the time that they have to do it is probably the biggest obstacle that they face.

Kim additionally shared:

> I started my first year teaching geometry and I loved it and I couldn't understand why the kids didn't love it comment I didn't know why the kids just didn't like the geometry. I didn't realize it was a subject that kids just didn't like. Imparting your knowledge is not as easy, if you have the wall of this light at the door, you know when you open it up and kids don't like it so regardless of how much you try to make it. Making sure that the teacher realizes that each year is different in they reflect on things that work and things that are not working for each specific group.

James also shared:

> First three years I would say just find it in instructional rhythm, make sure they have that lesson planning connected to the assessment and providing curriculum-pacing guides.

Charles shared the following:

> They come in knowing the content; the second problem would be instructional strategies and how to convey the content to the students at their level to bring them to where they need them to go.

Richard also shared:

> At the high school level, we have to wrestle with the reality that we are at the end of the K-12 assembly line. I don't like using that but it fits. We, and I'm not blaming anybody else, we inherit whatever K-8 is providing. Then not just K-8, we inherit the entire world that's around these kids for their entire life. So you've got skill deficits and sometimes we got appropriate levels and courses for kids who struggle and other times we do not. Because math is such a sequential subject, the foundational skills orange well established then it's difficult but not impossible to teach them the more abstract math that we want then to learn.

These new teachers have to teach math to a very diverse population of students in terms of skill level and comfort with the content. Our participants shared that the newer teachers sometimes have a hard time imparting that content to all students because of limited instructional strategies.

Classroom management and lesson planning is another area that new teachers struggle with according to the participants. The participants said that most new teachers have difficulty with classroom management and lesson planning because they are getting to know the profession and some of those skills have not been practiced enough. Sheila shared:

> I think their biggest challenge is the fact that they just don't have the variant that they need in order to manage the classroom, manage time, manage the students, and have those acceptable achievement levels for all students at all times; you know every student every day.

Mary further shared:

> Lesson planning and Strategies on how to manage their classrooms. Because they struggle with something as simple as switching up the seating chart every nine weeks to kind of break up groups or cliques in the classroom. You have to kind of break up any group clicks in the classroom. Light those little types of strategies as far as the management part is concerned. It would definitely be the management piece and how they regain control after they lost control in the classroom period they want some support in there screaming for help because they kind of lost control of the classroom. So I would say lesson planning and managing their class.

More administrators shared the same sentiments as the ones above. Classroom management and lesson planning seemed to go hand in hand. This is a struggle for new teachers.

According to the participants new teacher have many things on their plates during their first few years. They are not only learning how to manage time and content in the classroom; but they are also learning how to manage additional duties like meetings, mandatory training, and other school related activities. Kevin shared:

> The paperwork and a lot of things that take away from being classroom teachers. I mean ideally, you want teachers to be able to plan, teach, assess, and get feedback. But we have many requirements based around professional development hours. We have many requirements within the evaluation system. So there's 15 tasks that have to be done for

> first-year teachers in their evaluation system, I think first-year teachers are responsible for about eight of those. Those create pressures there, but we try to alleviate pressure for them. That's the biggest thing.

Winslow further shared:

> Time management. When you get in your first three years you have your ideal how you get to engage and how are you going to teach and how you going to do your lessons and connect them the real world, you have big dreams, big hopes, and big ideas. Then when you get in there the next thing, you know you have a new software program on grading, you have new grading practices, and you have a PD that you wonder why? You wonder how these PDs are going to help me because they are not always the best. So you balance your professional development requirements with your Talent Ed task along with all of the logistical; grading, meetings, IEPs, and 504s. Your time becomes how we are using it efficiently.

Most participants articulated that time management outside of the classroom was a huge obstacle for new teachers. However, the participants expressed that over time and with experience most new teachers would find a groove in handling these tasks. Some participants also said that they try to make this process stress-free as possible for the new teachers.

When it came to the types of supports that the teachers asked for, participants answers varied from none, to mentoring, to help with students. Winslow stated the following about teachers who did not ask for supports:

> I have an open door policy, they have my cell phone number, and they have my email. I think the biggest concern is if they have questions, they have a mentor assigned to them.

> Really if they are functioning with their team, most of the questions are already answered through those PLCs, meetings, and discussions.

Michelle also shared:

> I hate the fact that some teachers feel hesitant to reach out for that help and support because that's what I'm here for. So I tried to call those teacher in to have that face-to-face conversation; what do you feel in your gut right now and then what do you think and then work hard to support that.

Charles shared:

> A lot of teachers don't ask for anything. Not from me. I have built-in Systems Support in place; they have their instructional leader and they have that coach. I meet with them more than I meet with the teachers as far as supplies. I kind of made it up open door policy. They can come to me and say Mr. ****** I don't feel like this is working, they feel comfortable coming to me and sharing and we sit down and talk about it and figure things out. We can make a change or something. They don't ask for much. I think that coach does a good job finding what they need up front, so I don't hear a lot I wish I had this and I wish I had that.

Richard further shared:

> They don't ask for a lot in general. Certainly, they appreciate the feedback they get when they observed. I think they like and appreciate when you give them reminder things that are coming that's or to help down to manage some of the responsibilities. I think it's usually just feedback and they don't ask for it, but everybody wants it and it's just acknowledge me that the good things that they do. So most teachers don't ask for that, but it's important to recognize because inside they want it.

Some new teachers do not ask administrators for much because they have good supports in place. Furthermore, there are also new teachers who are reluctant to ask for help from their administrators. This is for unknown reasons. However, according to Laura, some new teachers do ask for the following:

> Teachers ask for mentoring, which we have automatically embedded. Teachers will ask for support (new activity) for creating things (lessons/work) and we have a program for that in place. So that these teachers did not have to create things from scratch.

Greg further stated:

> They need help with their content. Thereafter, help with classroom management and help with the other with unruly students. Sometimes how to deal with parents, parents that believe everything that their kids say.

Michelle also stated:

> Help with discipline. It is the younger teachers that come to you and they're hesitant to refer students.

Some new teachers ask for mentoring, help with creating things, content, how to deal with parents, and how to deal with unruly students.

Participants were asked to give their experiences with reference to if the new teacher's request for support matched what they perceived as their actual need. The majority of the participants answered yes. Laura, who answered yes, stated:

> Yes. It's because often in the beginning teachers ask for basics of survival. We have a faculty handbook and a lot of things are available online and in print. During the first four weeks of school, the two weeks of new teacher orientation and two weeks pre-service, we do a lot of baby steps because hitting them with too much at one time may be

> overwhelming. You're asking for a lot of the fundamental things and operational things then by the second week of school and they are asking for things that are management and instructional. We have a classroom management coach, we have a behavior specialist, we have a response intervention team that directly supports new teachers, and their in-house mentor. Theirs monthly new teacher training that's done at the district level.

Antonio also answered yes:

> Their request usually align with what our school goals are.

James answered yes as well:

> I would say yes. I'd really like to pair up my veteran teachers with my new teachers so that they can, the new teachers gleaning from the wisdom of the veteran teacher and sometimes the veteran teach will be revitalized from helping the new teacher.

There were two instances where administrators replied that their new teachers request did not line up with their actual needs. Greg stated:

> I feel that you need to talk with them and find out what it is, because everybody need something a little different. Yes, there are some common things that they all need, but at the same time each individual may need something a little different.

Mary also stated:

> But not all the time because sometimes they may think that's a need for them but really it could be, for example, there's been situations where he just felt like they needed help with the classroom management piece and it really wasn't the management, it was the instruction wasn't on point to engage the kids period so students were not engaged and that's why they were losing them as far as controlling that classroom. The teacher is

> thinking his classroom management issues, I don't know how to get these kids to sit down and do what I want them to do; but it's because your instruction is not strong. You have not built in engaging activities and you have until ten strategies never going to keep the students attention. You have to work on your transition to your lessons so when you transition from one activity to the next that you don't lose them period so the teachers reception is I need help with classroom management but really the administrator or the evaluator maybe that it's not classroom management, that's your lesson planning and instruction it's not where it needs to be.

Therefore, in most cases in this particular study, the administrators responded that the new teacher's requests for support did indeed match what they perceived as their actual needs. Whereas, in a few cases, the request for support did not match up; but, the administrators would provide assistance that would steer them in the right direction.

Many new teachers face obstacles during those first years. Therefore, I wanted to get the participant's experiences as they pertained to their feeling whether these new teacher were adequately prepared during their pre-service programs for what they would face in the real world teaching profession. Participants overwhelmingly answered no for various reasons, although a few participants answered both yes and no. Laura stated:

> Yes and no. Our pre-service program has transformed dramatically in the couple of years and I think it's better than it used to be. It's a much more strategic approach with specific plans and they focus on critical things that teachers need to know. They give them time in the afternoons and then building, but the challenge is last year there seemed to be redundancy. Some new teachers were able to identify things that didn't get explain to them in depth and things that would have been helpful and things that they felt were

> really well done. So I think that because we are in this cycle change for transformation in the new teacher induction process, that feedback will help us improve the program even more. I think we're headed in the right direction. I just think that the First full year of a major transformation you're going to find things that overlap and things that a well-developed. What day is been doing is collecting feedback continuously from the new teachers so that they can use that data to reflect and improve what they do. One of the things that I really like is that they indoctrinate all teachers to know what it's like to be a part of our school system. They are not just coming in as teachers they are coming into our community what does that mean; We're an urban area and it's different in a rural or suburban area, There is more conversation about the reality and challenges of working in this type of district without being doomsday, because it's not, I've been in this school district and love it. But you have to go into understanding with your eyes open about the challenges that you're going to face with your students related to an urban area are different and to do a better job of not making so much of that shock that happens the first ten days. I will say two years ago our first-year teachers were just completely in shock and yet last year it was better and this year even more so.

Other participants did not feel that their school level programs or college level programs prepared the teachers for what they would face in the profession. Kevin expressed:

> Not to the degree that I would like. Pre-service programs a lot of times are theoretical very little from what I recall it's been awhile since I've been in one of those classes but that what I recall his teacher practices a little bit in front of their peers and fellow teachers who are not going to give the same resistance that may be seen on a day-to-day basis.

Antonio also expressed:

> One of the things that we've learned is that lesson planning it's a weakness that I were teachers come with new the division and it's something that takes time and it's not something you can do it in pre-service week provided by the division. So I think there are things they are prepare with, but I think there are some pieces things that changed over the years, but colleges have not changed with them.

Kim further expressed:

> No, what book did you read that tells you how to deal with Johnny, who says shut the f up. I've had students called me a fat b several times, what type of book tells you how to deal with that? I don't necessarily think any. So we are working with students from a nearby college now and they're getting a more hands-on experience. This is still not student teaching, they are just doing pullouts, but they're still getting a better view because kids treat them like they're subs and you know how kids treat subs.

Winslow also expressed:

> I think there's a good balance between varying practices. I think there is, what we do a lot of theory along with the teacher prep piece of it, they’re not exposed to the day to day. A lot of the problem solving and conflict resolution and meeting type things, are things that they're not aware of. But in terms of how do I develop a lesson, how align instruction to my student, how do I identify students that may have special needs. I think they're giving a heads up with that, but you don't get practice with how to deal with obnoxious parents, you don't get practice with how to handle IEP meeting that may not be going the way you wanted to go.

Greg additionally expressed:

> I don't think any training really prepares any professional for what you're going to experience. I think it's a training but truly never prepares you. Because even when we talk about student teaching, you may see the students for a period of time and the class maybe yours. But still typically, I don't know if it's the right thing to do. We end up putting them with the better teachers that have the better classes and with the higher-level students. So when they come in, depending on their content areas, they don't necessarily see what they actually experience. We can teach content and put them in classrooms, but until you close that door and those kids are yours, that's true experience. No matter how much we try to prepare them, until that class is yours, you never get it 100%.

Michelle also expressed:

> No, no I don't. I would be a liar if I said yes because I don't think anything can prepare you except for the classroom.

Mary expressed:

> No. No, I don't. Especially from brand-spankin'-new teachers that are straight out of college and they learned all this stuff in these great education classes and they learned all this theory and everything out of these textbooks and they get into their classroom and those kids are off the chain.

Richard also expressed:

> No. But I never did. They prepare people as well as they can and give them the limitations of time and the structure of programs.

Current administrators felt that new teachers are not prepared for all aspects of teaching and what they will face in the profession. Some administrators felt that there is some weakness in teacher

preparation programs and the way they are implemented at the school level. However, they were not blaming colleges for those shortcomings in the new teachers. Many of the administrators shared that there was nothing that could truly prepare a new teacher for the profession but actual hand-on experience.

Characteristics of a Highly Qualified Teacher

The nature of this study was to investigate how practicing administrators provided supports for highly qualified mathematics teachers. Therefore, I wanted to dive into each participant's personal definition of a highly qualified teacher. Although all the participants had their own unique way of describing a highly qualified teacher, there were similarities in across the participant's descriptions. All participants stated that highly qualified teachers were those who have content knowledge and they know how to engage their students. Antonio stated:

> You have content knowledge. They have the ability to relate to and adjust to student needs. The teacher who varies instruction and assessment. These teachers stay current with pedagogy and the changes that come with students as we all grow in tenue and in age. You have to stay current with them as well.

Winslow also stated:

> Obviously if they don't have the content, then right away then the classroom management, all the other things or instructional strategies and assessment piece they sort of lag behind. They must have that content piece.

Some participants definition also included years of experience, continuous learner, and have the appropriate credentials. Sheila stated:

> One who has all the education requirements and the required certifications that are needed to teach a particular subject. They also have years of experience and they have a level experience that will make them highly qualified teacher.

Greg further stated:

> I think a highly qualified teacher has their credentials and they know their material.

Other participants also included a love for all students and they are compassionate individuals. Kevin answered:

> Most importantly, they develop relationships with all kids and they get to know what works for all kids. Everything doesn't work for all kids, so how do I develop relationships with each individual kid to understand what meet their needs? Then the master teacher is able to convey and get kids to really want to perform for that teacher for themselves and for that teacher. They have that kind of ability for students to really make that teacher proud.

Michelle also answered:

> This is very personal and it may not be a professional; but for me I need to be convinced that that this teacher going to, but I noticed a strong word but I'm using it, I need to be convinced that this teacher going to love all my students. Do you like kids? I wish I had some kind of magic apparatus during the interview process that I can make the applicant put their hand on and it would turn green if they love kids and it returned red if they don't love kids. Because they are, so much fun and the students are so much fun and it's such a great job, but if you don't want to enjoy teenagers then I have a hard time with working with you.

A few of the participants touched on all of the above characteristics. Laura shared:

> The teacher will have to be very knowledgeable in their contents and very strategic in their planning. Using resources and thinking through exactly how they going to get students to learn, not how I'm going to demonstrate my knowledge, Now how am I going to talk about my content, more about how I'm going to get kids to learn. They have to be highly engaging not afraid to take risk, flexible, and able to adapt. What worked last year may not work this year and what worked three weeks ago may not work three weeks from now. So they have to be flexible and understanding that they can't adhere absolutely to a routine. They have to be compassionate and actually care about whether their kids learning. Also, care more about their kids learning than just getting through material. Highly reflective and always seek an opportunity for continual growth. Just build it to the point of automaticity where I could have did this better but not seeing that as a negative. Committed to the growth of students and school community beyond just the classes you're assigned to teach.

Mary further shared:

> They are solid and sound and their content knowledge. They are equipped with various instructional strategies various methods to delivered instruction, so it meets the student's learning style. They are compassionate and understanding. I don't want to say assertive, but not aggressive. They know what they're doing, they take command of their classroom, and they have high expectations for their students to achieve.

Charles also shared:

> From my population and highly qualified teacher is a person who knows their content and knows to address those misconceptions. They're looking to always improve themselves and reflect. They are accepting of kids and they have a heart for kids. They know that

> young kids do stupid stuff and it's our job to teach them how to do. They're not so quick to blame someone else and talk about if this person had done this or that person that done that. It's a person that says this is what we have and I'm going to address it because I want to mentor into this kid's life.

Characteristics of highly qualified teachers were described in many different ways, but shared the same overall components. According to the participants, these teachers are those that have content knowledge, years of experience, use various instructional strategies, and are companionate in their working with students.

Retention of Mathematics Teachers and Effect on School/Department

Participants were asked to share their experiences about how retaining mathematics teachers affected their schools or departments. Some participants expressed that there was high turnover in their particular schools. Others conveyed that their schools really did not experience high turnover. Team consistency and losing effective teachers can have great effects on schools and departments. Kevin shared:

> There's not a whole lot of talent out there, so if you're constantly looking to higher math teachers or any teachers you're not always seeing high quality coming in. So when you retain high-quality math teachers your retaining high-quality teams and you will see growth every year in student learning and student achievement.

Antonio additionally shared:

> It's harder to find them than it is to retain them, if that makes sense.

James also shared:

> Yes, when a mathematics teacher retires, transfers, unfortunately gets sick, or have a baby. It does affect the department. It's a ripple effect because some of these teachers

> actually are teaching across grade levels and terms of mathematics, because in mathematics, we have the two geometries and it's more specific in areas. It does have a ripple effect but we do a good job of trying to research and recruit early. Right now, for example, I'm a have a math teacher going back to Pennsylvania; one is retiring, and another one moving back to Tennessee. So I have already put out there, to try to recruit and replace them. I also encourage the current math teachers to get more endorsements, to make them more marketable, and more flexible in terms of our planning. Like geometry is always a high need, so I'm trying to get people to increase their endorsements.

Therefore, according to some administrators, it's harder to hire good quality teachers to replace ones that have left. At the middle school level, replacing teachers poses an interesting dilemma because there are different grade levels and content endorsements to consider.

There was some impact on the ability of the teaching staff to establish teamwork and the continuity of curricula programs. Team norms were disrupted and consistency in the curriculum was not held. Kevin expressed:

> Sometimes the turnover is good. If you don't feel like you have a high-quality staff, you turn them over. With that turn over it may take me a year or two to re-establish that collaborative culture that I need. But if the collaborative culture is set you hate to lose those teachers because it does disrupt equilibrium of the team and the conversations change, the norms sometimes change. So you look here at our school where 96% of algebra kids pass, and 90% of our geometry kids are passing or achieving at a pretty high rate we haven't had many new teachers come through here. It's a solid foundation of how those teachers have created the culture and expectations.

Sheila further expressed:

> The most effective to some would be the way the team works, because when you bring a new person in, that person in the team, they have to learn one another and understand how the other works; what gifts and talents are and what strengths and weaknesses that they bring to the table; what supports they need as far as the curriculum. I think the curriculum is what it is. When the team meets, those are some of the non-negotiables. We would be expecting the teacher to follow the curriculum unless it was a new content area I really can't think of a way that it would be challenging for the curriculum. It really goes back to that team piece.

Greg also expressed:

> I think anytime you have a new person that comes in, it breaks up the continuity. Then you have to learn the kids again and the kids have to learn you. The team that you're working with had to learn your strengths and your weaknesses and vice versa. They need to find things out about the team that they're working with. So it takes time for teams to gel. It takes several years for a team to gel, to where you really know a person and where they're coming from and what their strengths and weaknesses are. So by the time you get to know a person and you get to know their strength and weaknesses, even from a curriculum standpoint. Even if you want to put it in particular subject and it would be good for them, but then when they're gone, (he sighs) then you have to start over again. So it breaks up the continuity and the collegiality all the team and of the school and other students as well.

All participants shared that the team continuity is the most fragile when teacher turnover occurs, especially if the team was strong. All ten participants also concurred that there really was not a

break in the continuity of curricula programs because they are set by the school district, regardless of who is currently teaching.

The loss of teachers also had effects on the ties to parents, students, and/or the community in some schools. However, administrators did not notice effects to parents unless the students had siblings who attended that school in the past. Laura shared:

> We have very high parent involvement in our advanced student population. We have low parent involvement in our below track student population. So our students who come in who are barely passing and some not passing. It's very hard to get in contact with those parents, so their awareness of our turnover is very low for them. The upper-level student parents are more concerned about the continuity of the upper level classes.

Richard also shared:

> Parents only understand this school as well as their kids present it to them. I would love to say that our parents are highly informed but they're not really. They just know their kid is happy every day or they have a conflict with somebody. But they do know when there are chronic problems because this is a neighborhood school and the principal hears about that.

Winslow additionally shared:

> Obviously parents who have multiple students who have been through a school, they are the one to with know more than anybody else. If they would know how this teacher is and this is who I would want by youngest child to have when they get to middle school. So that maybe something that would affect them if that person is not there.

The administrators communicated that there is some effect on the community in terms of confidence with the school when there is turnover. Kevin shared:

> Principal laughs and then responds: You talk to people in any community and they all know who the teachers are that have been there awhile and how good those teachers are or how not so good they might be. If you have high quality and parents, I always said the biggest seller of teachers are kids. So kids go home and say how their teacher is, and every year that message is sent within the community. If it's positive then their trust in our building increases and the support that they provide the teacher increases. If it's the opposite where it's a new teacher, usually what a student will say if they're frustrated is this teacher is new and they don't know what they're doing; the community believes that and they wonder why do we keep seeing new teachers every year? What's wrong with that school if they can't keep teachers there? Why do people want to leave? There is an area of consistency that breeds trust and commitment from the community that is necessary.

Greg also shared:

> Teachers develop relationships in the community and they're more prone to do things for kids and more things for the school. When you have a staff member that's been at school for a number of years I can only see positive things. I really can't see negative things unless you have a teacher who was not good and that that point you don't need them there. The longer people stay the better your curriculum, the better the supports; typically, they know some of the stakeholders that are in this school and in the community; so they can bring in additional people to your school and bring resources and things. That can always add to the teachers that you have and can only do the same for your school and for your community.

In some cases the administrators shared that parents were not always informed about teacher turnover. However, in some cases, both the students and the community felt the brunt of the loss due to turnover.

Factors That Influence Mathematics Teachers to Stay or Leave the Teaching Profession

Participants shared their experiences in describing factors that they thought influenced mathematics teachers to stay or leave the teaching profession. The participants were also asked if mathematics teachers they are seeing come through were in the profession for the long-term or a temporary time. Some of the reasons teachers stay according to James:

> I think the love of children and the love of wanting to expand the minds of young people keep the individuals in the profession. My aunt and sister are math teachers and we have conversations. I think that the sense of accomplishment, watching the student grow, middle school for example, I like watching how a student in 6th grade has grown over three years. Watching that transition from 6th grade to 8th grade is unique.

Michelle shared the following about teachers staying:

> To stay in the profession is a passion for what they're doing. Here we see so much progress, the math department here is so incredible and it feels good to be on a good team. I think everybody has a deficiency area that they need to work on but the math department is so strong and help each other out with that.

However, there were many reasons why mathematics teachers left the profession. Some of these, according to the participants, included teaching had become more difficult, the pressure of high stakes testing, frustration and burnout, no career advancement, teaching assignments, lack of administrative support, and salary. Laura shared:

I think that more teachers are leaving the profession because it continues to get more and more difficult. We continue to put more on the plate of any teacher. For a while high stakes tests were written in such a way and the sanctions were so high that it forced administrators, who then forced building level leaders, who then forced teachers to teach to the test whether we liked it or not. The pressure was so high and teachers who want to help children learn so that they could be successful, having to meet certain expectations, have had to over their careers, feel like they were selling out. I'm a supporter of standards because I do believe that without standards, we have a lot of hobby teaching and we would have a whole lot of things running amuck. But I think this over compulsion with high state standards that don't really measure kid's learning has created this feeling that teachers have gotten and beaten down by and they no longer have the joy of teaching and it's all about accountability. I think there has to be a balance. We have gone from one end of the pendulum swing to the other and there has to be a balance; there has to be a joy and excitement in the process of learning. There has to be some excitement and some passion in the moments of struggle; and the joy of triumph when you come through that struggle. That's what got a lot of us into teaching and that's what's missing from a lot of the lives and the daily agenda. That's just one piece; the other piece is it's financial. Math teachers can do a lot more than just teach and as soon as they figure that out; the financial offers outside of education lure them and some of them end up taking it. I'm not losing math teachers to external jobs, I do lose math teachers to upper level leadership positions and sometimes the call of the dollar and feeling like in a leadership position they can make a difference.

Greg also shared:

> Younger teachers and younger professionals are not tied to positions like older people use to. See all the teachers, once they got into the profession they stayed for years and they didn't get out. But now younger people within two or three years, after you have held them there you tied them to your school, they jump professions. Young people will change a profession in a minute. So I think you need to support them, give them options, and show them what their pathways are to progress in their profession. Whether or not they want to be an assistant principal, principal or something period but at the same time, you need to also pay them. You need to make their make their job seem lucrative. Not just math teachers but young people across the board. I think that's why people don't necessarily go into education anyway because they think you're not going to get rich and you're not going to make a lot of money doing it.

Mary further shared:

> I think testing is driving folks out of the profession period definitely the stressors and the stresses of high stakes testing is definitely causing some people to leave the profession; as well as the student population. The student population is different than the student population of 15, 20 years ago. Some teachers are not prepared to deal with young people and what they are like now. so not only is it the pressure of making sure your students perform well and if they do well on the state standardized assessment, but also they can't take this generation of kids and they feel like to have the leave the profession. I don't think that's always just math, I think math has that additional pressure because traditionally those scores have been a little bit lower and a little more challenging to

> make accreditation mark in math. But I think the other piece as far as being prepared to deal with the children send some people out of profession. Along with the pay.

Some administrators shared that teaching assignment and burnout were reasons why teacher left the profession. Antonio shared:

> I think the biggest influence for leaving the profession is the pressure that comes with these high stakes state test. Because math is under the microscope all the time and I feel the same is true with English. That is a significant amount of pressure that we get all the time and I think that if teachers are pigeon-holed for lack of a better term and they are always given the inclusion kids, they are always given the hard to reach kids, that gets tiring, and it's a lot of work, it's a lot of pressure, and a lot of creativity. You need a freshness; you need the opportunity for a change.

Sheila also shared:

> Classes that they required to teach, because some teachers, typically what happens and this is the reality unfortunately, your teacher that relates well to your lower performing students are assigned to those lower-performing students and the problem with that is they get burned out quicker. So sometimes they feel like they're stuck, and that can be a factor.

Some administrators did not experience the consistent loss of math teachers, but they concurred that the reasons stated by colleagues were common reasons that math teachers left the profession.

Most participants shared many reasons for mathematics why teachers left the field. These reasons included salary, teaching assignments, pressure of standardized testing, and promotions/lack of promotion. However, the majority of them believed that the mathematics teachers entered the field for the long run. There were always outliers in any group, but most

administrators did not believe that math teachers entered the field as a temporary profession. Kevin stated:

> I think long-term. I think most people know it's not where you going to get financial enhancement every year and so they don't go in with that idea. It's not enough financially where they can say I can make this happen for a couple years to give me some financial stability and then pursue other things. Most people who get into teaching mathematics have a passion for math; understanding the importance of individuals and being able to solve problems in life and this is a component of it.

Kim also stated:

> I think every teacher looks at it as being a long-term career; if they started as a teacher. There are some that have a mathematics degree end up coming into the profession based on whatever, but they decided they going to teach math along the way or this is the job they have to. If you're referring to a teacher who went to school to teach math, then yes. These individuals are going in from the beginning with the outside thought that I'll be doing this for long term.

Winslow further stated:

> I think long-term. I actually have earth science, algebra, geometry certified math teacher who left private industry to come into teaching. Sometimes people make more money, but I think if you're in education and you do it for the right reasons and you like it. . . If people in it for the right reasons, at all factors. We know that there are going to be challenges and we know that's a fact in any industry. We would be naive to think that education is the only industry that has challenges.

Some administrators believed that there was a mix between mathematics teachers. Some who were in the profession for the long haul or short term. James shared:

> I think it depends on their individual goals. Some people, I think, they may have had a parent that was a teacher. Somebody in their lives made them want to get into the profession. I think because love of children, people make it a career. Some may see it as a stepping-stone to something else such as administration or government work; I think it depends on a person's personal goals.

Laura also shared:

> I think it's a combination but based on the individual. I have a teacher who's a first-year teacher with me. They are not a first-year teacher total; they have been with a neighboring school division for three years. They went into corporate; only intended to work for three years and wanted to give back. They are early in their twenties and were raised in a community similar to our school district and wanted to come and give back. They said "I'm going to do three years of in school and conduct my service, then I'm going to be a jewel maker, then go into poetry". Then he does that and makes his money; but then he lost his contract due to the economy and now he's fallen back to teaching. He's phenomenal and I would love to keep him but #1, he never got his provisional because he didn't intend to stay for a career, so I have him in a new position but he still doesn't have his certification ; #2, I know he's going to be looking for other jobs. Even though he's great and it's like riding a bike, it's like he never lost a beat; he's probably better now than he was in the first three years because he has some career and life experiences, but he's not in it for the long hall. I have another teacher who is incredibly gifted and has an amazing spirit; she has a phenomenal rapport with students; and

> incredible leader. She is in it and she has gotten offers to be a motivational speaker, she's had companies try to lure her away, wine and dine her by inclusive communities; but for her, it's a conscious to calling. Those are two extremes, then I have teachers who are hitting their four-year mark, and they're feeling some growing pains. I can tell that each person goes into it with different desires and in the past three years, I'm learning what feelings and needs fuel different people. I'm trying to do what I can to keep those individuals getting the internal reward for which they sought.

Richard further shared:

> I think the majority of them do it as a long-term career. But I also see career switchers come in who have usually been successful doing something else for a period, sometimes a long time and they're looking something just to get the last five years or their ten years of their working careers; that's sometimes less than that.

According to the participants, there are some situations where teachers are coming into teaching mathematics from other careers to finish the final years before retirement. Then there were those mathematics teachers who left the field and came back.

Possibility versus Desirability to Retain All Teachers

My final interview question was based on the possibility versus the desirability to retain all teachers. Some participants shared that it is possible to retain all teachers, but not always desirable. Winslow felt that is was possible and he stated:

> I think it's entirely possible. I think it's the collegial working relationship. You let them have a seat at the table with a voice. It's giving them the resources and tools they need. Many people will say you don't give them any raises, but when you go back to when this thing started when we didn't get raises for years; people were fine because we had jobs.

Michelle stated:

> Yes, absolutely. It would be ideal if you could. But it is fun also when a teacher is ready to retire and he or she has shared with you for personal reasons that they have done it for 35 years, you know it's time, you are happy for that person and they get to go out and kind of start this whole new life. It's exciting getting new teachers but overall you do want to keep your team together.

Mary further stated:

> I think it's possible to retain the teachers. I think the biggest thing that the teachers need to feel supported. I think if they feel supported and their environment is a risk-free environment where they don't fear the loss of their careers or if they make a mistake they will feel that they are going to be penalized or punished or some sort of consequence for it. I think that teachers will stay. I think that if they're in the profession for the right reasons they stay.

Some participants shared that it was not always desirable to retain all teachers for any number of reasons. Kevin stated:

> I don't think it's possible to retain all of them. It's desirable to a degree. It's not possible because life happens. Personal illness, successes of building a family, increases in some levels of financial stability where they can raise their kids while another spouse works, and all of those things come into play. For some people it's not the job for them. They may have coming here thinking it was, and then they learn and they learn that this is something they don't want to continue doing and as an administrator not going to convince them if they moved into that realm. From my perspective, I try to respect people's own beliefs on how they want to make decisions and their own lives. It's not my

> job necessarily to convince them, if they believe that they need to do something differently. This job requires 100% focus on this is what I want to do.

Kim further stated:

> No, we're human, somebody loses a job or someone loses a husband, I have to support a family. Maybe you have some things happened at the school where you feel like you need to leave. So we're human, so until you take the human factor out things happen. Every school I left I enjoyed being there and I wanted to grow. I started as an elementary teacher. I've loved every school that I worked at but you're human and you want to move on. You know that's not desirable for all teachers.

James additionally stated:

> In a perfect world yes, but as we know sometimes we have to let teachers, we have to help them on a different path, if we have to if we have a teacher that is not performing we have to do something to address the teacher, because, in the long run, the students are suffering and you want to make sure you provide the right resources. I believe in helping an individual improve to the point where they have to improve. But if they're not improving and not taking my advice and so forth, you work on the process, also documenting how to release them from working at the school. But, I like to try and help the people as much as I can until I give them my all.

Sheila also stated:

> I don't think it's desirable because not all teachers need to be retained (soft laughter). If you have that one or two because of burnout or teaching wasn't for them, then, those are not desirable.

Charles stated:

> Do I think it's possible, no? Possible because there's always going to be somebody who at some point is going to want to try something different or feel unhappy? Desirable because, you have a level expectation; whomever is the weakest link you're going to always putting pressure on them to get better or move on.

According to the participants, life happens. Sometimes situations change that force people to move on, whether that be based on their personal happiness, whether that individual is not meeting the schools goals, or if the person is moving up in their career.

Findings Conclusion

While conducting the interviews, the participants and I had remarkable conversations about the retention of highly qualified mathematics teachers. Great insights were gained from the experiences of practicing administrators pertaining to the study. The participants gave me honest "no holds bar" answers to the interview questions. We discussed in depth the culture and climate at these schools, their philosophy and approach for supporting new teachers, and how support for mathematics teachers were given at the school/division level. The participants and I also discussed major obstacles that these newer teachers faced during their first years, their personal characteristics of a highly qualified teacher, and how the retention of mathematics teachers affected their school/department. Finally, we discussed some factors that influenced mathematics teachers to stay or leave the profession and the possibility versus desirability to retain all teachers.

According to the participants, cultures are maintained across time at the schools, although the climates can change at different points of any given school year and may change from year to year depending on what is going on. All administrators shared that their school had a positive

culture and climate that was student centered, family oriented, passionate, collaborative, warm, inviting, and supportive. Some participants also shared that their school's climate and culture were ones that were composed of teacher centered decision-making and were continuously improving. School climate and culture can be one of the most important aspects when dealing with the retention of mathematics teachers.

Participants communicated their philosophy and approach for supporting new teachers. Their philosophy and approach were centered on pre-service training at the school, provided mentors/coaches during that first year, team collaboration, targeted support via walkthroughs, timely feedback, and one-on-one meetings. Supports for new mathematics teachers were comparable in that the administrators provided professional learning communities, collaboration, math coaches, math specialist, pairing with veteran teachers, and support from the administrator themselves. According to the administrators, there were really no programs from the school level aimed at retaining highly qualified mathematics teachers. Some divisions offered monetary incentives to teach at schools with lower Standards of Learning rates. As a final point, participants attempted to develop these new mathematics teachers' self-efficacy through the supports that were already provided at the school level; like observations followed by feedback, collaboration, mentoring, and coaching.

Some of the major obstacles that math teachers faced during their first years at these schools were the understanding of struggling students, workload, and classroom management. Many teachers were hesitant to ask for help from their administrators. However, when they did ask for help, it was usually with mentoring and lesson planning. These requests for help occasionally matched the teacher's actual needs according to the participants. Pre-service and college preparation programs seldom prepared these new teachers for what they would face in

the profession. Participants shared that their personal characteristics of highly qualified teacher were individuals who had content knowledge, they were engaging, companionate/caring, made/executed effective lesson plans, were classroom management specialist, taught at the student's level, loved the profession, and loved children.

Retention of math teachers has profound effects on schools/departments according to the participants. Positive effects consisted of less discipline issues. Negative effects consisted of team consistency suffering, loss of effective teachers, high quality teachers harder to find, and veteran teachers having to pull the newer teachers along. Participants also shared several effects that teacher turnover had on ties to teamwork, continuity of curricula programs, parents, students, and the community. There was disruption in the consistency of the curriculum, disruption of the equilibrium on the team, team norms changed, transition took great time/effort, and the team had to learn how to function again. Parents were generally not affected when there was a loss of a teacher. Yet, community trust can dwindle and relationships within the school can be effected.

Finally, the participants shared their experiences in what factors were influencing math teachers to stay or leave the field, whether math teacher were in the profession for the long haul, and possibility versus desirability to retain all teachers. Factors that influenced math teachers to stay was the love for what they do. However, the factors that influenced math teachers to leave were, teaching had become more difficult, the pressure of high stakes testing, frustration/burnout, no career advancement, teaching assignment, administrative support, and salary. Participants believed that the majority of math teacher were in the profession for the long haul with a few that were temporary due to promotion and wanting more pay. Participant also shared that it was very possible to retain all teachers, but not always desirable to retain all teachers.

Chapter 5

Introduction

In this chapter, I will present a summary of the study and conclusions that were drawn from the interview data presented in Chapter 4. In the summary of the study, we will briefly discuss the overview of the problem, purpose statement/research questions, and review of the methodology. We will furthermore discuss the major findings, findings related to the literature, and unexpected outcomes. This chapter conclusively provides a discussion of the implications for action and recommendations for further research.

Summary of the Study

Overview of the Problem

The problem that schools face throughout Virginia is retaining highly qualified mathematics teachers. It is fascinating how quickly things change between the start of a dissertation and the conclusion. When I started this journey, the No Child Left Behind Act was in place. Now as I conclude my study, the Every Student Succeeds Act is now the new standard for the 2017-2018 school year. However, from interviewing participants, I have learned that hiring new mathematics teachers in secondary schools still poses a challenge for administrators. I hope that the new standards will take some pressure off school districts, especially in the areas of secondary mathematics standardized tests.

Purpose of the Study

The purpose of this qualitative study was to understand the experiences of school leaders through the factors related to the retention of secondary mathematics teachers. Therefore, I launched an investigation into what kinds of supports current administrators were providing their new mathematics teachers. Current studies assert that new teachers leave the teaching profession

by year five. More schools are implementing science, technology, engineering, and mathematics programs within their school districts. Thus, the need for highly qualified teachers remains in those areas. The following research questions were my guide throughout this study:

1. What are the experiences of current school administrators related to the programs and practices that help new mathematics teachers ease into the profession?
2. What are the experiences of current administrators related to the retention techniques that ensure the highly qualified teachers remain in these schools?
3. What are the experiences of current school administrators related to how teacher self-efficacy relates to teacher resiliency and ultimately teacher retention?

Review of the Methodology

Professional practice qualitative research was conducted in my current study. I wanted to understand the phenomenon of the retention issues for highly qualified mathematics teachers in secondary schools. According to the literature, many new teachers leave the field of teaching within five years of entering it. The literature also asserted that new teachers leave the field due to poor support from administrators and supervisors. However, there existed a gap in the literature of how teacher self-efficacy related to the retention of mathematics teachers. I conducted interviews with school administrators to get more insight on the phenomenon.

Purposeful sampling was used when I choose the participants for the study. I wanted to investigate the practitioner's thoughts pertaining to teacher retention and building up of their self-efficacy through administrative support. I also used convenience sampling. These participants came from school districts close to where I worked. My interviews were conducted at urban school districts in the Hampton Roads area. I finally used stratified purposeful

sampling. My participants were composed to represent a particular group of interest. School administrators were chosen to share their support practices for new mathematics teachers.

My data collection procedures included recorded interviews, transcribed data, and document reviews. Administrator interviews gave me a small snap shot of their experiences as they related to teacher retention. A digital recorder with the permission of each participant recorded these interviews. Each participant was insured (in writing and verbally) that their answers to interview questions and their school districts would remain anonymous in my research report. My question protocol related directly to my research questions. The majority of the interviews were done in person, while a couple were conducted over the phone for the convenience of the administrator. I kept a research journal to record ah ha moments, key words, interviewee phrases, personal notes, and self-memos.

An in-depth analysis of the data was conducted during and after the transcription of all data. I conducted a coding process where I categorized themes from the interviews into ideas. The data was examined several times. During round one of the coding, each interview was looked at one at a time to search for themes. These themes were placed in the comments section of each interview. A second round of coding included placing each theme from each participant in order per question. Finally, in the third round of coding, I color coded the main themes that came from the data.

As a practicing secondary mathematics teacher, I had to ensure that I was conducting and writing up my research in a non-biased, ethical matter. Therefore, I had a four-person team who were my member checks for the draft of my Chapter 4. These members read my findings and made sure that I was reporting my findings in a nonbiased manner. Finally, my committee, for an ethical and nonbiased representation of my findings also checked my Chapter 4 draft.

Major Findings/Findings Related to the Literature

This study had three research questions that guided my investigation in the experiences of current school administrators in how they support new mathematics teachers in order to retain them in the profession. The first subsection focused on the experiences of these administrators related to the programs and practices that help new mathematics teachers ease into the profession. My second subsection focused on the experiences of these administrators related to the retention techniques that ensure the highly qualified teachers remain in the profession. Finally, my third subsection focused on the experiences of these administrators related to how teacher self-efficacy relates to teacher resiliency and ultimately teacher retention. In these subsections, I will discuss my findings as they relate to the literature.

Helping New Teachers Ease into the Profession

New teachers lack preparation in many situations that they face in urban schools (Curtis, 2012; Thompson & Smith, 2005). One of the ways that the participants in my study supported their new teachers was through pre-service training. According to three participants, it is imperative to provide new teachers with some support before teacher in-service begins. These participants give their new teachers a head start on the many tasks that they would have as a first year teacher. These pre-service offerings gave teachers some idea of the day-to-day functions and where/who to ask for help.

Teacher preparation programs may not prepare teachers for what teaching entails (Curtis, 2012). Therefore, it is imperative that new teachers receive support beyond pre-service and in-service training. Participants stated that they try to get into new teacher classrooms as much as possible, especially during the first year via walkthroughs. Then the participants

provided feedback after these walkthroughs. Teachers were encouraged to target their own areas of need unless there was something that the administrators would have to dive deeper into.

Strong mentoring is a support that should be provided by administrators (Darling-Hammond & Berry, 2006). According to the participants, mentoring and collaboration with teams was a support that was offered for new teachers. The induction of new teachers should include them having a mentor that teaches the same subject, giving them common planning time, and collaborating with teachers outside their departments (Brown & Wynn, 2009). Seven of the participants shared that they had some sort of mentoring/coaching program embedded for these new teacher. The participants stated that many new teachers did not ask them for supports due to the mentoring, coaching, and mathematics teams in which the new teachers were a part. Many of the mentor programs were provided at the school level. Whereas some division level supports included math specialist and instructional supervisors.

Retention Techniques

According to research, teachers leave the field within the first five years (Curtis 2012; Darling-Hammond, & Berry, 2006; Exstrom 2003; Scott et al., 2006; Struyven & Vanthournout, 2014). There is still some turnover in the math departments for the schools that I interviewed administrators. The turnover seemed a bit higher, especially if these schools had lower math SOL scores, from my observation. Two administrators explained that it was harder to hire highly qualified teachers than it was to retain them. This was due to the teachers that were available. According the literature review, inexperienced teachers usually take the positions of teachers who have left (Hanushek et al., 2004; Jacob, 2007). This could be the reason why it is harder to find highly qualified teachers for hiring purposes. Retaining highly qualified teachers is significant for a good math department to function without interruption.

Strong induction programs may develop a way to reduce teacher attrition rates (Viel-Ruma et al., 2010). Participants mentioned that they have induction programs at least during the first year for their new teachers. These induction programs include pre-service training. The pre-service training helped the new teachers ease into things and gave these teachers people that they can lean on and ask questions before in-service week. According to the participants, this gave them a space where they could ask questions without having to feel embarrassed.

Along with the induction program, new teachers are assigned mentors and or coaches in majority of the interviews in the study. Administrative support for mentoring and induction programs can be the difference in a beginning teacher deciding to stay or quit their job (Brown & Wynn, 2009). According to the participants, all new teachers and new mathematics teachers were placed with mentors in their department for the most part. There are some instances where mentors are chosen outside of their departments. These mentors were seasoned teachers who had good practices and show teachers the tricks of the trade. Many schools that have low teacher retention rates do not have experienced teachers that can serve as mentors; causing teachers to leave the profession or go to other schools (Darling-Hammond & Berry, 2006). Thus, mentoring and coaching are supports provided by the administrators in the study.

Walkthroughs, meaningful feedback, and collaboration was another main support that the participants provided for their new teachers. School administrators established positive mentor/teacher relationships by placing the new teachers with mentors and coaches that provided feedback (Sargent, 2003). Participants shared some different ways that they provided this support to their new teachers. According to the participants, fellow colleagues providing feedback gave the new teachers a safe place to grow. However, administrative feedback was a

key component that the participants gave their new teachers. This was a space where the participants could build relationships with their new teachers and have courageous conversations.

Fall (2010) stated, "School and district leaders should ensure a range of supports tailored to address the challenges new teachers face in high poverty contexts" (p. 78). Participants also discussed some district level supports that were in place for new teachers. One district provided a math coach for their math teachers. Other divisions provided professional development for their new teachers. In one school district, the professional development were opportunities in which the new teachers had to elect to participate . Another school district also provided an instructional supervisor and instruction specialist for their math teachers.

Nurturing Self-Efficacy

Self-efficacy has links to burnout and job satisfaction (Dimopoulou, 2014; Pas et al., 2012; Roellke & Rice, 2008; Schwarzer & Hallum, 2008; Viel-Ruma et al., 2010). Thus, my probing into the practices of the administrators as it pertained to nurturing the new teacher's self-efficacy. Participants shared many ways that they helped teachers to develop their self-efficacy. Some of these practices were in the form of classroom observations, learning walks, mentoring, coaching, collaboration, and the conversations/feedback from the stakeholders involved. Teachers are the beholders of their own sense of self-efficacy. However, school administrators can nurture the environment in which these new teachers can thrive.

Some schools experience adverse situations that can either enhance or diminish their resiliency and self-efficacy (Bobek, 2002; Tye & O'Brien, 2002). In adverse situations, new teachers need a lot of support from the administration, their mentors/coaches, and their collaborative teams. One administrator mentioned that some new teachers come in a situation where their voices are not really heard. According to the participants, teachers need a safe place

where they can vent and talk through things without being scolded or judged. This desire is why majority of the participants stated that they provided their new teachers with mentors.

Self-efficacy has links to student achievement (Bobek, 2002; Dimopoulou, 2014; Pas et al., 2012; Ware & Kitsantas, 2007). This student achievement is where the classroom walkthroughs and observations come into play. In at least two of the schools, teachers and administrators conducted classroom observations and walkthroughs. Teachers would conduct these walkthroughs to see good teaching techniques that could be used in their own classrooms. This practice will help the new teachers build a sense of self-efficacy. New teachers are able to see how strategies work and can tailor them to their own classrooms. As teachers gain more strategies under their belt, they gain more self-efficacy according to the participants.

According to the research school administrators should use care when evaluating and recognizing their new teachers work (Bobek, 2002; Jacob & Lefgren 2005; Sargent, 2003). The participants shared the importance of providing evidence of the new teacher's achievements for them to see. The participants talked to the significance of helpful feedback to these new teachers. According to the participants, the administrator is to act as a coach and cheerleader for the new teacher. Their goal, through providing the feedback to the new teachers, is to get them to buy in and work on things in which they need to improve.

Unexpected Outcomes

The current study had a few unanticipated out comes. One unexpected outcome came in terms of getting the school districts that I wanted for the study. These schools had a significant number of turnover in their math departments. When I received the permission to conduct study responses back, some schools were reluctant to have me conduct the study. One school even responded that their school district had a high turnover of mathematics teachers and that they

would not be able to be a part of my study at the current time. However, I was disappointed in not being able to get all of the school districts of interest in my study; but I still feel that I obtained rich information to add to the field of knowledge.

Another unexpected outcome was in terms of schools having programs at the school level to promote the retention of highly qualified mathematics teachers. Many participants stated that they did not have any such programs at the school level. Some participants shared that their division had some recruitment programs in terms of monetary incentive to teach subjects like math and to teach at schools that have low SOL scores. These were all district level supports. All of the schools had supports in place for teachers, but nothing specific to help promote the retention of highly qualified mathematics teachers.

An additional unexpected outcome came in terms of new teachers not really seeking support from their administrators. The participants shared that many of their teachers went to their mentors and coaches, but not to them. I saw this a good thing. Perhaps the mentoring and coaching programs were working well enough that the new teachers did not really need to seek help from the administrators. However, I also question why teachers were not seeking supports from their administrators. Some teachers may not be comfortable with seeking more support or specific help from their administrators for many reasons.

The next unexpected outcome was related to the retention of teachers and ties to parents. It never dawned on me that parents really did not notice retention issues at schools unless their children had siblings who attended the same schools. Only one administrator mentioned that the parents might not have confidence in the school when there is a high turnover of teachers. Another administrator shared that the parents with students in lower level classes would probably not notice a high turnover of teacher. The same administrator also stated that many of the

parents with students that in the lower level math classes were not as involved as the parents with students in the higher-level math classes.

Another unexpected outcome was that all of the administrators felt that mathematics teachers entered the field of education looking at teaching as a long-term career. One administrator posed a question about what person would seek a degree in teaching mathematics and not stay in the profession. However, according to research, many teachers with advanced mathematics degrees either do not enter the field of education or leave the field for more lucrative opportunities. The teachers at these schools may not have advanced mathematics degrees. In addition, with the job market sort of stagnant, teacher may be remaining according to one administrator.

The final and most unexpected outcome was that for the participants, it is not desirable to retain all teachers. Some administrators shared that teacher may become burned-out and they have to be "moved along". Also, teaching is not for all individuals and these individuals need to be moved. One administrator said that there is always going to be a teacher that is unhappy for whatever reason. In addition, teachers may not be satisfied with their position and wish to move up in their career. These are just some reasons why teachers could become undesirable to retain in any given school.

Conclusions

Schools are charged with providing a learning experience that is conducive to student achievement. Highly qualified teachers are needed in order to make these learning experiences a reality for all students. The literature review portion of this study has provided evidence of the challenges in retaining highly qualified mathematics teachers in urban schools. Many teachers exit the education field within the first three to five years (Curtis 2012; Darling-Hammond, &

Berry, 2006; Exstrom 2003; Scott et al., 2006; Struyven & Vanthournout, 2014). There was some evidence found, through interviews with current practicing administrators, that retaining these teachers was less complicated than hiring a new teacher who is highly qualified to enter an open position. In addition, there was evidence from interviewing, that some schools were having a turnover of mathematics teachers due to promotions and other family related life changes. All of the participants, their schools, and their school district provided some form of support for their new mathematics teachers. However, there is always some room for improvement in even the best practices. Therefore, I will present some implications for action based on the literature and the interviews conducted in this current study. These implications were based on administrative support, teacher preparation, self-efficacy, and career growth.

Implications for Action

Administrative Support

According to the research, many teachers leave the field for lack of administrative support (Curtis, 2012; Curtis & Wise, 2012; Petty et al., 2012; Struyven & Vanthournout, 2014). All of the participants shared the supports that they were providing for their new teachers. However, many of the supports were heavily emphasized during the first year of teaching. The participants provided their new teachers with supports during pre-service training at the school level. Some supports provided also included mentoring/coaching, team collaboration, walkthroughs, and one-on-one meetings with the administrators. Perhaps along with these supports, we can enhance some of these supports throughout the first three to five years. While providing these supports over the three to five years, we can slowly take away the training wheels and then take away our hands all together to let them roll on their own.

New teachers are often given the tough assignments during these first years (Johnson, 2001; Struyven & Vanthournout, 2014). New teachers often get assigned the classes that experienced teachers do not want according to the research and one participant's account. The participant shared that she places her new teachers in the lower level classes due to having to keep the more seasoned teachers in the specialized mathematics classes. Not all the participants spoke to this, but based on my experience in the field; this is a common practice at the schools in which I have taught. Therefore we need to give these new teacher additional support with those lower level classes. These classes are the ones that have the least parental support and more discipline issues according to the participants. Thus the teachers needing that additional support through the first few years of teaching.

Teachers often leave the field due to psychological burnout and the pressure of the day-to-day functions (Petty et al., 2012; Struyven & Vanthournout, 2014). Some participants shared that teachers are asked to do more paperwork and the job itself is becoming more difficult. Perhaps we can provide teachers more time at school to do the paperwork. We can also have the teachers do this paperwork within their content teams, so that no one person has a whole bunch of paperwork on their plates. Some participants also shared that some teachers become burned out and not desirable to retain. Therefore, we must insure that we are not burning our teachers out and pushing them out the door when they reach that point in their career. This thought takes us back to that providing ongoing support for the first three to five years.

Teacher Preparation

New teachers are usually not prepared for what they face in the real world teaching profession (Curtis & Wise, 2012; Thompson & Smith, 2005). Some participants shared that there is not any type of training that can prepare a new teacher. These experiences will only be

gained once that door is closed and they start teaching according to the participants. A few participants also shared that teachers, during internships with their colleges, get a nice student teaching experience. These student teaching assignments are normally with the best classes and with the best teachers; sometimes with the teachers who are willing to take on a student teacher for that particular school year, according to the participants. We definitely do not want to run our teachers away from the profession, but we should give them those more realistic experiences that they would face when they get into the classroom. Perhaps we can also give student teaching experiences that show more than one level, so they can see the most and less challenging classes.

Discipline and classroom management is another challenge faced by new teachers (Curtis & Wise, 2012; Dawson, 2007). The participants also were in agreement with the literature in terms of new teachers having challenges with lesson planning and classroom management. Two participants shared that college program did not prepare new teachers for lesson planning and engaging different types of students. From my experience in the field, lesson planning and classroom management are closely connected. Therefore, if we know that new teachers may not be coming into the field with these skills, we should make that a big part of their professional development. Some participants shared that they have their new teachers do observations of other teachers to help in this area. Along with those walkthroughs, we can also have collaborative team meetings or meetings with administration to discuss these walkthroughs and how the new teachers can tailor the observed practices to their own classrooms.

Self-Efficacy

Teachers leave the profession in the beginning of their careers due to the lack of confidence in themselves (Thompson & Smith, 2005). It is imperative that we, as leaders,

develop teacher self-efficacy. Teachers are often their own worse critics and need that support during their first years. The participants shared approaches for how they support teacher self-efficacy but did not mention the lack of teacher self-efficacy as a reason teachers leave the profession. Perhaps we need to consider this when we are developing our induction programs for these new teachers. Just taking that new teachers leave the profession due to lack of confidence in themselves can be the difference in how we as leaders provide support and retain our teachers.

Teacher self-efficacy is linked to burnout and job satisfaction (Dimopoulou, 2014; Pas et al., 2012; Roellke & Rice, 2008; Schwarzer & Hallum, 2008; Viel-Ruma et al., 2010). The participants shared that they support their teacher's self-efficacy through classroom observations, mentoring, coaching, collaboration, and conversations/feedback. We as leaders should provide these supports through year's three to five. Some of the participants shared that they have new teachers collaborating with veteran teachers and getting ideas from them to enhance their self-efficacy, as well as providing feedback to them after observations. However, one participant shared that she went a little further than just saying "what went well and what things" needed improvement during post observation. Another participant shared that a big part of their job was to be a cheerleader and to recognize when see people doing good things. Teachers will be willful contributing members of the school community when they feel like their work is important and being recognized (Sargent, 2003). We as leaders should be recognizing things that these new teachers do well and continue this practice beyond the first years. We should provide feedback that goes deeper than the external things that went well during these observations. This feedback should go deeper into the things that the new teacher is doing well in order to nurture and build that self-efficacy.

Recommendations for Further Research

According to research practices, my research was a sound qualitative endeavor. However, there are additional methods that would strengthen this current study. There were some limitations to the study. One limitation was the convenience selection of participants. My participants consisted of principals and assistant principals who where local and from the schools who granted permission to conduct the study. This study could be re-conducted, with some improvements, in other cities throughout the country. Another limitation was not conducting site observations. I had to rely on my participant's truthfulness about their school cultures. I do believe that my participants did share honest statements about their cultures. However, a person conducting a study for the outside may see something that the administrator does not. Another limitation that I mentioned in Chapter 3 had to do with interviewee's reluctances to share what they really though. However, I do feel that all the participants gave me honest responses in our discussions.

One recommendation that for further study is to dive deeper into the study topic by interviewing mathematics teachers who are in years 1 through 5. I am currently in an administration program and I wanted to add their insights to the body of knowledge. However, teacher insights can strengthen the study by providing the researcher both sides of the same coin. This addition to the study would present how new mathematics teachers perceive the support that they are receiving from their administrators. The interviews of new mathematics teachers would also provide strategies to improve administrative support.

Another recommendation for further study is related to the interview questions for the administration and or new mathematics teachers. There should be further investigation in how teachers are supported throughout years 1 through 5. Many of my participants shared the

supports that teacher obtain during year one. There was a missed opportunity to dive deeper into the support that was being provided beyond that period. Therefore, future studies can include further probing into the support that administrator provide throughout the first five years of teaching.

An additional recommendation for further study would be interviewing mathematics teachers who have recently left the education field. This would provide firsthand information in why these teachers chose to leave the teaching field. Subsequently we can further understand the experiences of mathematics teachers who left the education field early in their careers. I can imagine that this would be a challenging endeavor for a researcher. Perhaps surveys can be taken to gain an improved response population. Then, the researcher can include the interviews for rich information to add to the field of knowledge.

My final recommendation for further study would be to dive deeper into self-efficacy of new mathematics teachers. This addition to the study would design a mixed study or quantitative study due to the current self-efficacy instruments that are available. A further investigation into the self-efficacy of new mathematics teachers would enhance the field of knowledge. Again, only new mathematics teachers who are in years 1 through 5 should be participants. This may assist administrators on which years are the most critical to provide specific supports to enhance teacher self-efficacy.

Concluding Remarks

Retention of our highly qualified mathematics teachers is an essential undertaking for school administrators. No full-proof way exists to retain all teachers due to many uncontrollable forces that are seen and unseen. However, as administrators and leaders, we can provide environments where these teachers feel like they are being support from the district, the school,

the administration, their colleagues, and all other stakeholders. We need to employ retention techniques that are helping our new teachers ease into the profession while nurturing their self-efficacy. At the end of the day, it is up to the teacher to have a positive self-efficacy. However, school leaders have the opportunity to help them build that self-efficacy up by providing support and celebrating small and large improvements in their progress as teachers.

One of the personal insights that I took away from this study is the idea that retaining all teachers is not desirable all the time. Yes, there exist extraneous situations where the not so desirable teachers need to be "moved along" because they present some form of danger for the students or other stakeholders. However, administration should be mindful that they are not burning their new teachers out and then wanting to move them along. I am that secondary mathematics teacher who was burned out. Yet, I got through it with the support of my administrators, colleagues, friends, and family. Thus, the origin of this study. I became a teacher because I knew what it was like to be a student who could not really relate to my teachers. This experience helped me to become a teacher for whom my students feel they could relate. I feel that this study and what I have learned from the wonderful people who participated will help me once I take on an administrative role. In this role, I will be more equipped to relate to and support my teachers, even when they are in the burnout stage. I also hope as reader or researcher that you gained some insight on the value of administrators providing support for their new mathematics teachers in secondary schools.

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Appendix

Informed Consent/Interview Protocol Form for Principals and Assistant Principals

School: _____

Interviewee (Title and Name): _____

Interviewer: _____

Administration Interviews

Introductory Protocol

To facilitate our note-taking, we would like to audio tape our conversations today. Please sign the release form. For your information, only researchers on the project will be privy to the tapes which will be eventually destroyed after they are transcribed. In addition, you must sign a form devised to meet our human subject requirements. Essentially, this document states that: (1) all information will be held confidential, (2) your participation is voluntary and you may stop at any time if you feel uncomfortable, and (3) we do not intend to inflict any harm. Thank you for your agreeing to participate.

We have planned this interview to last no longer than one hour. During this time, we have several questions that we would like to cover. If time begins to run short, it may be necessary to interrupt you in order to push ahead and complete this line of questioning.

Introduction

You have been selected to speak with us today because you have been identified as someone who has a great deal to share about teaching as it pertains to retaining highly qualified mathematics teachers in urban high schools. Our research project as a whole focuses on the experiences of current mathematics teachers and school administrators related to the programs and practices that help new mathematics teachers ease into the profession; the experiences of current mathematics teachers related to the retention techniques that are offered by administrators to ensure the highly qualified teachers remain in

these schools; and the experiences of current mathematics teachers and school administrators related to how teacher self-efficacy relates to teacher resiliency and ultimately teacher retention. Our study does not aim to evaluate your techniques. Rather, we are seeking to find leadership factors related to the retention of secondary mathematics teachers.

Consent:

I have been given the chance to read this consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature says that I am willing to participate/for my child to participate in this study. I will receive a copy of the consent form once I have agreed to participate.

Name of Adult Participant/Date

Interview Questions

How long have you been …

_____ in your present position?

_____ at this School?

1. How would you describe the culture and climate of your school?

2. Describe your philosophy and approach for supporting new teachers at your school.

3. In what ways, specifically, do you support new mathematics teachers?
    a. What programs does your school offer to promote the retention of highly qualified teachers?
    b. How do you see your school and the division supporting new mathematics teachers?

   c. In what ways does your school help teachers develop their self-efficacy?

4. What major obstacles do you see novice mathematics teachers facing during their first three years?
   a. What types of supports do you see these teachers ask for?
   b. Do their requests for support match what you perceive as their actual needs? Why or why not?
   c. Do you feel that pre-service programs adequately prepare your teachers for what they face in the real world teaching profession? What are some examples?

5. How would you describe the characteristics of a highly qualified teacher?

6. Has retaining good mathematics teacher affected your school/department?
   a. How so?
   b. Provide some examples
   c. What does teacher turnover mean for the ability of the teaching staff to establish teamwork and continuity of curricula and programs?
   d. How does the loss of teachers affect ties to parents, students, and the community?

7. What factors do you think influence mathematics teachers to stay in the profession and to leave the teaching profession?
   a. Do you believe mathematics teachers enter the field of education looking at teaching as long-term career or as a temporary profession? Why?

8. Do you feel it is possible or desirable to retain all the teachers?

Post Interview Comments and/or Observations:

February, 2018

Vita

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Personal Information

Born: 1980, Bronx NY
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Education

B.S., Mathematics (Departmental Honors), 2007, Hampton University, Hampton, Virginia
M.Ed., Educational Leadership, 2012, Regent University, Virginia Beach, Virginia
Ph.D., Educational Leadership, 2017, Old Dominion University, Norfolk, Virginia

Association Memberships

Golden Key International Honour Society, September 29, 2012 to present

Professional Experience

Mathematics Teacher, July 2015- Present, Virginia Beach City Public Schools [Salem High School], Virginia Beach, Virginia

- Taught secondary math classes
- Taught Geometry and Algebra SOL prep-course

Mathematics Teacher, December 2008-June 2015, Newport News Public Schools [Heritage High School], Newport News Virginia

- Taught secondary math classes during the regular school year
- Served as a 21st Century Program math teacher

References

References Available Upon Request